Clinical Medicine

Original Articles for January, 1959

Clinical Medicine

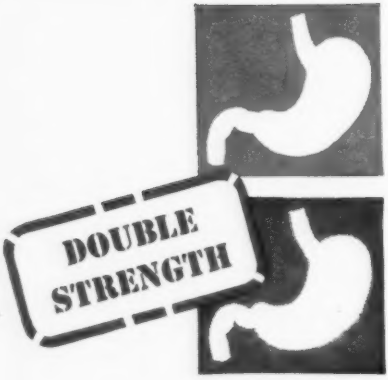
Vol. VI, No. 1

CONTENTS FOR JANUARY, 1959

Editorial

Original Articles

Current Literature



NEW!

KUDROX T.M.

Doubly effective antacid-demulcent-cholecystokinetic in concentrated liquid form

KUDROX—a potent concentrated combination of Aluminum Hydroxide Gel, Magnesium Hydroxide and d-Sorbitol—is twice as effective, requiring only half the usual dosage, for relief of biliary-digestive malfunction. d-Sorbitol (as contained in Kudrox) has been found to be 80 per cent effective in stimulating biliary peristalsis.

PDR
1959, p. 683

Dosage: 1 or 2 teaspoonfuls 30 minutes after meals and at bedtime. In peptic ulcer, 2 to 4 teaspoonfuls after meals and at bedtime.

Supplied: 12 oz. plastic bottles with unique cap-spout for convenient pouring. Complimentary plastic Kudrox carriers available on request for convenient away-from-home dosage.

DOUBLE STRENGTH KUDROX APPROACHES THE IDEAL ANTACID

- Twice as effective
- One-half the usual dosage
- Neutralizes twice as much gastric acid
- No acid rebound
- Does not produce systemic alkalosis
- Promotes enterobiliary peristalsis
- Reduces intolerance to fat
- Enhances emptying of the gallbladder
- Relaxes the sphincter of Oddi
- Non-constipating, non-laxative
- Bland and palatable—may be taken without water
- Sugar-free
- May be taken by patients on sodium- or potassium-free diets

Prescribe with confidence

KREMERS-URBAN COMPANY • MILWAUKEE 1, WIS.

Distinctive Rx Specialties Since 1894

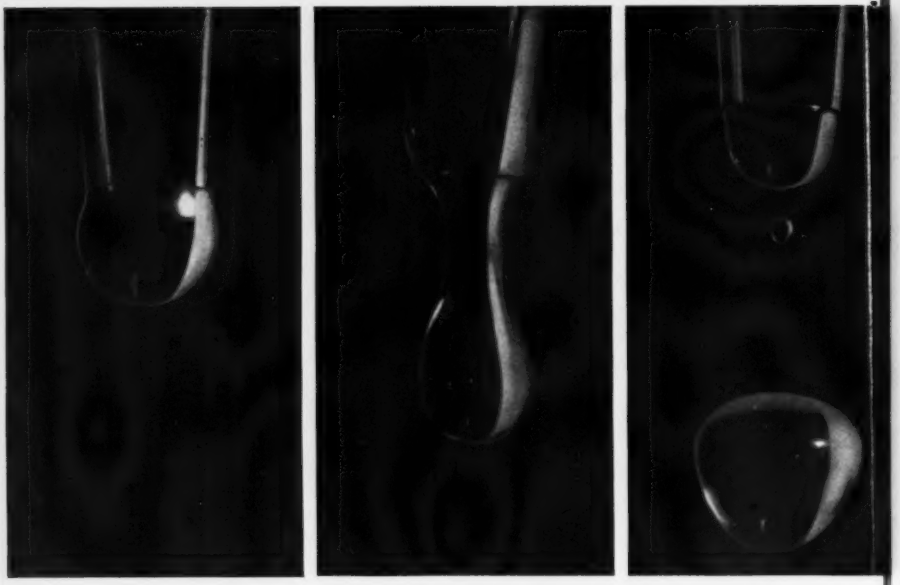
TABLE OF CONTENTS *(Continued)*

Current Literature *(Continued)*

Features

Briefs: Medical

Briefs: Surgical



In Biliary Distress

ZANCHOL®

Improves Flow and Color of Bile

Zanchol (brand of florantyrone), a distinct chemical entity unrelated to the bile salts, provides the medical profession with a new and potent hydrocholeretic for treating disorders of the biliary tract.

The high degree of therapeutic activity of this new compound and its negligible side reactions yield distinct clinical advantages.

- Zanchol produces a bile low in sediment.
- Zanchol enhances the abstergent quality of bile.
- Zanchol produces a deep, brilliant green bile, regardless of its original color, suggesting improved hepatic function.
- Zanchol improves the flow and quantity of bile w out increasing total bile solids.

Bile with these qualities minimizes biliary stasi duces sediment and debris in the bile ducts and courages the ascent of infection.

For these reasons ZANCHOL has shown itself to highly valuable agent in chronic cholecystitis, ch gitis and care of patients following cholecystect

Administration: One tablet three or four times a Zanchol is supplied in tablets of 250 mg. each. G Searle & Co., Chicago 80, Illinois. Research i Service of Medicine.

SEARLE

EDITORIAL

The Dissemination of Cancer Cells

Some carcinoma recurrences may be avoided if surgeons carefully follow these simple precautionary measures

JAMES M. NORTHINGTON, M.D., *Editor*

The spread of malignant cells has concerned operating surgeons and their internist colleagues since the recognition of secondary growth. As early as 1907, Long recognized the possibility of the implantation of cancer cells *per se* into a wound and advised changing drapes, instruments, etc., after a biopsy was performed, before proceeding with the radical resection of the cancer. In 1936 tumor cells were identified on knives used in surgical biopsy and excision. Subsequently, others have reported local recurrences following aspiration of carcinoma of the thyroid, prostatic carcinoma, and recently we have noted implantation along the needle tract following thoracentesis of fluid containing adenocarcinoma cells.

Although not the first to note the high incidence of recurrence at the suture line following resection of the colon, studies of the dissemination of cancer cells have been summarized recently by Warren Cole.[1] He and others found such recurrences in about 10 per cent of cases. A number of reports described silk sutures in the recurrences, which lends credence to the transplantation theory. Smears from the bowel lumen in patients being operated upon for carcinoma of the bowel have shown malignant

1. Cole, W. H., et al., *Bull. New York Acad. Med.*, 34:163,1958.

From an editorial, *J. Tennessee State M.A.*, 51:162-163,1958.

cells which decreased in frequency as the distance from the tumor increased. Implantation and growth of malignant cells in fistulas and on hemorrhoids, from adenocarcinoma of the colon, would seem to verify that these desquamated cells are viable. Hilberg presented evidence that cancer cells were found in washings from wounds in one-third of patients having radical operations for cancer.

Recently, certain drugs which are anticancer agents have been tried in this regard. Chief among these is nitrogen mustard, which seems to prevent a high percentage of "takes" in experimental animals injected with rat carcino-sarcoma. The drug must be given within an hour after inoculation of the cells to effect a difference. If six hours elapse between inoculation of cells and injection of drug, no benefit from the drug is detectable.

To prevent recurrences of carcinoma on the basis of implantation from colonic carcinoma, the following steps have been advocated:

1. Ligate the lumen of the bowel above and below the lesion before the operation is begun.

2. Clean the bowel lumen very carefully before placing sutures in the anastomotic line.

3. Ligate the vascular trunks leading to and from the tumor whenever possible, in order to prevent venous emboli arising from the tumor during operative manipulation.

4. Put a cover over the tumor if possible during its removal, thus minimizing the possibility of desquamation from the tumor and subsequent implantation on peritoneal surfaces.

5. Give nitrogen mustard in an attempt to destroy cancer cells dislocated during operative manipulation. It is hoped that these anti-cancer agents will slow down or prevent the progression of dormant microscopic nests of cells to growing metastases. The recommended total dose is limited to 30 mg., giving no more than 0.4 mg. per kilo for the entire course. This total dose is divided into four quarters. The first quarter is given into a tributary of the portal vein, the second quarter into the peritoneal cavity at the conclusion of the operation. The third and fourth quarters are given intravenously on the next two days.

It is hoped that these measures will help prevent the spread of cancer cells by surgeons. Until nonsurgical treatment of cancer is developed, the surgeon must realize that his glove, his knife, his drapes, or his haste may negate all his surgical skill and technic in effecting a cancer cure.◀

Until the discovery of DECADRON* by MERCK SHARP & DOHME, when your diabetic patients were also in need of corticosteroids, you were often faced with a difficult therapeutic dilemma. Diabetes mellitus was a recognized contraindication to the use of corticosteroids, since they not only aggravated the existing diabetic symptoms, but often precipitated latent diabetes.

NOW EVEN many diabetic patients may have THE FULL BENEFITS OF CORTICOSTEROID THERAPY

DECADRON—the new and most potent of all anti-inflammatory corticosteroids—is remarkable for its **virtual absence of diabetogenic effect** in therapeutic doses. In clinical trials with some 1,500 patients, there were no instances of aggravation of existing diabetes and no increase in insulin requirements.

Decadron*

DEXAMETHASONE

to treat more patients more effectively

MORE patients can be treated with DECADRON than with other corticosteroids, because therapy with DECADRON is also practically free of sodium retention, potassium depletion, hypertension, edema and psychic disturbances. Cushingoid effects are fewer and milder. DECADRON has not caused any new or "peculiar" reactions, and has produced neither euphoria nor depression, but helps restore a "natural" sense of well-being.

*DECADRON is a trademark of Merck & Co., Inc., ©1958 Merck & Co., Inc.

MERCK SHARP & DOHME
DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

The whole family likes "Premarin"®

IN a sense, when you prescribe "Premarin" for a wife and mother who is suffering in the menopause, chances are you're treating the whole family. Junior, Sis, and Dad, just like Mom, can tell the difference right off.

Mother isn't just more tranquil on "Premarin" therapy. Hundreds of published reports tell us she takes a positive outlook on life. She feels *good* And we all know that's the single most important factor for a happy home

Women on "Premarin" receive treatment that covers every aspect of the menopause, including prompt relief of physical distress.

Is it any wonder physicians say the woman suffering in the menopause deserves "Premarin"? Many a family would agree.

"Premarin," conjugated estrogens (equine), a complete natural estrogen complex, is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

Ayerst Laboratories • New York 16, N. Y.
Montreal, Canada

ORIGINAL ARTICLE

The Role of Surgery in Acute Pancreatitis

A discussion of the management of acute pancreatitis by surgical means in a series of 126 patients

W. GRIMES BYERLY, M.D.,* and LEE GILLETTE, M.D.,
New York, New York

"Diseases of the pancreas are among the most uncanny conditions with which we have to deal, and the acute cases are the most uncanny of all."[1] The author of this statement reported that although there was great variation in severity of symptoms among 30 cases, all of them seemed to have the same kind of inflammation in differing grades. The morbid anatomy ranged from a slight induration of the pancreas to a rapidly progressing necrosis. It was concluded that the treatment of choice was drainage of the biliary system and of the pancreas itself. To a large extent, these opinions are held today.[2,3,4]

STUDY OF A LARGE SERIES

The material herein presented covers 126 patients with acute pancreatitis treated at the Roosevelt Hospital from 1939 through 1955. These cases were reviewed to illustrate important clinical features, to assess the diagnostic accuracy and proper treatment of the disease and to evaluate the long term after effects of the acute condition and their implications re-

*From the Surgical Service of the Roosevelt Hospital.

1. Dowd, C. W., Medical and Surgical Report of the Roosevelt Hospital, New York, 1915, p. 29.
2. Fogerson, V., & Shedd, D. P., *Surg. Gynec. & Obst.*, 578:101,1955.
3. O'Brien, J. J., & Thayer, T. R., *New England J. Med.*, 253:355,1955.
4. Siler, V. E., & Wulsin, J. H., Monographs on Surgery (Nelson), 1:115,1950.

garding the need for surgery.

This experience has led to the conclusion that in 90 per cent of all cases, pancreatitis, acute or chronic, starts from an obstruction in a common channel, causing regurgitation of an incubated mixture of bile and pancreatic juice. This theory has had strong support in recent studies.[5] The objective in patients with the more severe acute condition, has been to effect common-duct decompression, with clearing of the biliary tree in those cases in which calculi have formed (30-50%).

The 126 patients studied initially had pancreatitis in its acute form. In every case the diagnosis was substantiated by one of the following criteria, or a combination of these:

1. An adequate history and clinical picture, with an elevated serum amylase (in 60 cases, 48%).

2. Typical operative findings (in 55 cases, 44%).

3. Confirmation of the diagnosis at autopsy (in 11 cases, 8%).

CLASSIFICATION

The 126 cases were classified on the basis of clinical and pathological findings as follows:

1. Edematous pancreatitis. The disease in this group, which comprised 88 (70%) of our cases, is characterized by steady and severe abdominal pain with occasional nausea, vomiting and fever. The increase of interstitial fluid causes the pancreas to appear swollen, pale and firm; and occasionally causes it to undergo fat necrosis. The usual course is one of improvement within 48 hours and spontaneous subsidence within one week. Treatment is generally by measures to decrease the secretions of the alimentary canal, and to control the pain.

2. Hemorrhagic (necrotic) pancreatitis: In this type, of which we had 27 cases (21%), there is persistent severe abdominal pain, tenderness, muscle spasm, and vomiting, with shock and ileus in many cases. The pathological changes are greater than in the first group, with necrosis and hemorrhage predominating. The course is that of extreme prostration with a high morbidity and mortality. Treatment, in its medical aspect, is similar to that of edematous pancreatitis. Drainage of the biliary system or fluid collection is necessary in some instances.[6,7]

3. Suppurative pancreatitis: Eleven (8%) of the patients had this type of the disease, characterized by abdominal pain, fever, and a palpable mass in the upper part of the abdomen. The necrotic tissue liquefies to form an abscess, or a cyst is formed which is lined by inflammatory tissue, at the margin between the necrotic tissue and the normal pancreas. The course is less lethal than in the hemorrhagic type and tends to reach its limit within two weeks. The treatment is surgical drainage of the abscess.

ETIOLOGY AND ASSOCIATED DISEASE CONDITIONS

Where acute and chronic alcoholism could be definitely ruled out, the most common clinical finding related to pancreatitis was disease of the biliary system, manifested by chronic cholecystitis and cholelithiasis. When occurring post-operatively, or in association with peptic ulcer, the pancreatitis was most likely to be of the

5. Elliott, D. W., et al., *Ann. Surg.*, 146:669,1957.

6. Baker, J. W., & Boles, T., *Gastroenterology*, 29: 536,1955.

7. Rhoads, J. E., et al., *M. Clin. North America*, 29:1801,1949.

Reported results with RONIACOL *in* intermittent claudication

FROM HALF A BLOCK TO TWO MILES. The patient, a 57-year-old white male with peripheral arteriosclerosis of about three years' duration, complained of pain in the right leg after walking half a block. After four weeks of treatment with Roniacol (75 mg per day), he was able to walk 20 blocks—and later two miles—without a sign of intermittent claudication. *Three years after discontinuing therapy,* "he still is able to walk unlimited distances and is without need of treatment."*

CONVERTED TO PURE VITAMIN IN THE BODY. Roniacol is not an adrenergic blocking agent; it is converted to the pure vitamin form (nicotinic acid) in the body and acts directly on the smooth muscle of the vascular wall.

EMINENTLY SAFE. There are *no known contraindications* to Roniacol. "Patients up to the ages of ninety have tolerated the drug in doses up to 600 mg with no adverse effects."*

**M. M. Fisher and H. E. Tebrock: New York State J. Med. 53:65, 1953.*

FROM HALF A BLOCK TO TWO MILES

Roniacol

RONIACOL®—brand of beta-pyridyl carbinol

Available in scored 50-mg tablets, bottles of 100, 500, and 1000. Roniacol Elixir, containing 50 mg of Roniacol per teaspoonful (5 cc), available in bottles of 16 ounces and one gallon.

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc
Nutley 10, New Jersey

hemorrhagic variety. The disease occurred more frequently in men than in women and obese patients made up 33 per cent of the entire group. Less than one-third of the entire group were thin or poorly nourished. The disease is predominantly one of the middle years.

MANNER OF DEVELOPMENT

Sixty-five patients (51%) gave a history of attacks of abdominal pain, which occurred as recently as one month prior to admission, and as far back as 20 years before admission. Twenty-nine had symptoms typical of chronic cholecystitis. Acute and chronic alcoholism was a prominent feature in 24 patients (19%) and 25 had undergone gastric-biliary surgery. Although some reports indicate that a heavy meal may be a precipitating factor,[3] only seven patients in this series gave such a history. The 14 patients with a history of one or more attacks of jaundice include five who had had proved hepatitis in the past; of the other nine patients in this group, six later proved to have definite biliary-tract diseases.

Of 18 patients (14%) with proven peptic ulcer disease, one had gastric carcinoma and nine had pancreatitis develop after gastrectomy for the peptic ulcer. There were no patients with post partum or mumps pancreatitis, nor was a familial incidence noted in any case. No patients showed evidence of an allergic background, nor was any case demonstrated to be drug-induced, e.g., by the action of morphine on smooth muscle.

SYMPTOMS, SIGNS AND DIAGNOSIS

The predominant symptom was a sharp, steady pain in the upper abdomen. In one-third of the patients this pain radiated through to the back. Nausea and vomiting were also common. The duration of symptoms from time of onset until admission to the hospital averaged 48 hours in the patients with edematous and hemorrhagic pancreatitis. In nine of the 11 patients with acute suppurative pancreatitis the symptoms lasted an average of 12 days prior to admission.

The predominant physical finding in 96 per cent of the patients was tenderness, located primarily in the upper part of the abdomen. Although muscle spasm occurred in 78 patients (62%), the board-like rigidity was rare—as also observed by others.[2,6] It is to be noted that 24 per cent of the patients had a blood pressure of more than 140/90 on admission. Elevation of the leukocyte count and hemoconcentration were common, hyperglycemia, glycosuria, and albuminuria only frequent.

Serum calcium and potassium values were measured in 42 patients and were not abnormal. The electrocardiographic pattern was normal in 15 patients on whom tracings were done, and showed an ischemia pattern in nine. In eight patients a prolonged prothrombin time was the only evidence of abnormality in coagulation. Bleeding in the upper gastrointestinal tract, as evidenced by positive guaiac stools, was reported in one case only.

CONDITION FOUND ON ADMISSION

On admission, 79 patients had routine exploratory x-ray films of the abdomen; only eight demonstrated signs consistent with segmental ileus —the so called sentinel-loop;[8] the cholecystogram revealed pathological changes in 33 patients (26%). Gastrointestinal x-rays of 40 patients gave

8. Bockus, H. L., et al., *A.M.A. Arch. Int. Med.*, 96:308,1955.

findings of duodenal ulcer or inflammation and extrinsic masses in 18 instances. X-ray studies of the chest in 30 patients revealed pneumonitis of the lower lung field in seven.

Eighteen patients had ascites, manifested by 400 cc. or more of serosanguinous fluid. In 13 cases cultures were taken of which one contained *B. coli*, one *clostridium Welchii*, and eleven had no growth.

MODES OF MANAGEMENT

Medical or supportive treatment consisted of measures to decrease the activity of the pancreas and gastrointestinal tract, to control the pain, to maintain fluid balance and to treat anticipated infection. These measures included allowing nothing by mouth, use of naso-gastric suction, administration of intravenous fluids, blood, antibiotics, antispasmodics, and analgesics. Atropine, methantheline, penicillin, streptomycin, morphine and meperidine were the drugs most frequently used. Paravertebral sympathetic nerve blocks were performed in three cases and were transiently successful.

In reviewing the records of patients, the changes in medical management over the years are noted with interest. In 1939, the regimen consisted of atropine, a sulfa-type drug, morphine and intravenous fluids. In 1946 penicillin replaced the sulfa drugs, and meperidine began to supersede morphine. From 1948 onward the various broad-spectrum antibiotics were added and blood was used more frequently. Since 1950 methantheline and propantheline have replaced atropine

HALF REQUIRED SURGICAL TREATMENT

Sixty-two of the 126 patients had an operation performed on the first admission. Eleven were operated on after several weeks of hospitalization, during the quiescent period. An exploratory celiotomy with or without drainage was the procedure most frequently performed (20 cases, 32%). An exploration of the common duct was carried out in 21 cases (33%). Definitive surgery upon the biliary tract was done in 29 of the 62 cases treated by operation (47%). The smallest number of patients with recurrent symptoms were in this group.

SUMMARY AND CONCLUSIONS

As seen at this hospital, pancreatitis has been most common in the middle aged male and tends to occur more frequently in better nourished patients. The history on admission included prior attacks in over half the cases; other important features were alcoholism and previous gastric-biliary tract surgery.

Abdominal pain was the most constant symptom, occurring in 85 percent and located in the upper abdomen in practically every case.

The most frequent sign was abdominal tenderness (96%). Muscle spasm, rebound tenderness, ileus, mild fever, tachycardia, hypertension and jaundice were other common findings.

Sixty per cent of the patients had elevation of serum amylase within 48 hours of admission. Cholecystograms done on 49 patients demonstrated abnormality in two-thirds. Other laboratory findings were leukocytosis, hyperglycemia, albuminuria, glycosuria and frequently hemoconcentration.

In 52 per cent of all the cases the pancreatitis was proven to be related to biliary-tract disease. Alcoholism was the next most common etiological factor (16%).

Sixty-two patients (49%) had some

procedure as part of the management during their initial admission. Twenty-one (33%) had common duct explorations; only two patients (10%) had recurrent symptoms. Of the 41 patients with other procedures, 25 per cent had recurrent symptoms. The complication rate was 19 per cent; and the operative mortality rate was 22 per cent, 10 of the 14 deaths occurring in the group of patients with hemorrhagic pancreatitis.

In conclusion, it is felt that the majority of patients with acute pancreatitis not related to preceding surgery or alcoholism have biliary tract disease and that surgical treatment should be directed toward decompression of the biliary tract.◀

Errors in Diagnosis of Diabetes

Patients may present all of the classical symptoms and not have diabetes; others may seek medical advice with only a single complaint such as fatigue, disturbance in vision, neuritis, vague digestive symptoms or a disturbance in the sense of taste or smell—and have diabetes.

Some conditions in which glycosuria is encountered aside from diabetes are:

Pregnancy—10 per cent of all cases. Diabetes to be proven or disproven.

Alimentary glycosuria — condition questionable. Glucose tolerance test indicated.

Infections, emotional upsets. Prediabetic tendency.

Endocrine disease — hyperthyroidism, hyperpituitarism and adrenal cortex disease.

Following the administration of steroid preparations and some other drugs.

Renal glycosuria — blood sugar determination of value.

Cerebral-vascular accidents and brain tumors.

Coronary thrombosis.

Cancer of liver, thyroid and pancreas.

Skull or brain injuries.

Following intravenous administration of concentrated glucose solutions.

Errors in the diagnosis of diabetes most frequently occur in conditions in which glycosuria is the only finding suggestive of diabetes. The glucose tolerance test can be of the greatest value in helping to establish the correct diagnosis. Some patients with diabetes do not have glycosuria constantly. Unless a blood sugar determination or a glucose tolerance test is made the diagnosis may be missed. Patients past 40, obese and with a diabetic background are always to be considered as possibly diabetic, and investigated.

Warvel, J. H., *J. Indiana M.A.*, 51:1388-1391,1958.

ORIGINAL ARTICLE

Topical Use of Vioform-Hydrocortisone In Dermatology

Iodochlorhydroxyquin combined with hydrocortisone produced good response in 63 of 69 dermatology patients

ROYAL M. MONTGOMERY, M.D., and
WILLIAM M. LAVETTE, M.D., *New York, New York*

The bactericidal and fungicidal properties of iodochlorhydroxyquin U.S.P.* have been well known for nearly half a century. It was first used topically in Europe and became popular in the United States during the early 1940s. In 1942 the first report on its topical use appeared[1] in this country. Later, the effectiveness of the medication in many dermatologic conditions was reported.[2] Its widespread use attests to its value as an anti-eczematous agent. The medication is readily tolerated, it is nontoxic and has a low sensitizing index.

Hydrocortisone was first used locally for skin disorders during the present decade. It proved valuable in reducing pruritus and inflammation, but was thought to favor bacterial growth. While this latter effect has never been categorically proven, the systemic use of corticoids has been associated occasionally with the spread of infection. Therefore, the use of hydrocortisone on infected or potentially infected lesions was contraindicated. In order to permit more exten-

**Vioform,®* Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

1. Wise, F., & Sulzberger, M. B., Year Book of Dermatology & Syphilology, The Year Book Publishers, Inc., Chicago, Ill., 1942, p. 25.
2. Sulzberger, M. B., & Baer, R. L., *A.M.A. Arch. Dermat.*, 58:224,1948.

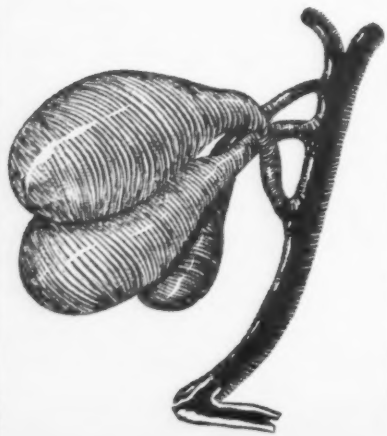
AN AMES CLINIQUICK™

CLINICAL BRIEFS FOR MODERN PRACTICE

HOW PREVALENT ARE MULTIPLE GALLBLADDER ANOMALIES?

One hundred and twenty-two cases of *vesica fellea divisa* (bilobed gallbladder) and *vesica fellea duplex* (double gallbladder with 2 cystic ducts) are reported in the literature. A unique case of *vesica fellea triplex* has recently been described.

Source: Skilboe, B.: Am. J. Clin. Path. *30*:252, 1958.



in medical management and postoperative care of biliary disorders...

"effective" hydrocholeresis...

DECHOLIN®

(dehydrocholic acid, AMES)

"...dehydrocholic acid...does considerably increase the volume output of a bile of relatively high water content and low viscosity. This drug is therefore a good 'flusher,' and is effectively used in treating both the chronic unoperated patient and the patient who has a T-tube drainage of an infected common bile duct."[1]

free-flowing bile
plus reliable spasmolysis

DECHOLIN® WITH BELLADONNA

"...DECHOLIN/Belladonna in a dosage of one tablet t.i.d. for a period of two to three months may prove helpful in relieving postoperative symptoms, aiding the digestion, and facilitating elimination."[2]

(1) Beckman, H.: Drugs: Their Nature, Action and Use. Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) Biliary Tract Diseases, M. Times *85*:1081, 1957.

AMES COMPANY, INC
Elkhart • Indiana
Toronto • Canada

64659

TABLE 1

EFFECT OF *VIOFORM*-HYDROCORTISONE LOTION*

DIAGNOSIS	No. OF CASES	GOOD	FAIR	POOR	IRRITATED
Seborrheic dermatitis	9	7	1	1	(1)
Moniliasis	3		2	1	
Contact dermatitis	3	2	1		
Rosacea	2	2			
Psoriasis	2		2		
Nummular eczema	1	1			
Stasis dermatitis	1		1		
TOTAL	21	12	7	2	(1)

*3% iodochlorhydroxyquin and 1% of hydrocortisone (free alcohol) with emulsifiers and preservatives.

TABLE 2

EFFECT OF *VIOFORM*-HYDROCORTISONE OINTMENT*

DIAGNOSIS	No. OF CASES	GOOD	FAIR	POOR	IRRITATED
Contact dermatitis	15	12	2	1	(1)
Seborrheic dermatitis	14	11	3		
Neurodermatitis (localized)	7	2	4	1	
Psoriasis	3		2	1	
Asteatosis	1	1			
Atopic eczema	1	1			
Dermatophytid	2	2			
Nummular eczema	2	2			
Stasis dermatitis	2		2		
Dermatophytosis (*T. rubrum*)	1			1	
TOTAL	48	31	13	4	(1)

*3% iodochlohydroxyquin and 1% of hydrocortisone (free alcohol) in a petroleum base.

sive use, it has been combined with various antibacterial agents.

Good results were obtained when a combination of iodochlorhydroxyquin and hydrocortisone was used as an anti-inflammatory agent in seborrheic dermatitis.[3] Later the effectiveness of this combination was established in a variety of dermatologic conditions. This report confirmed preliminary observations and showed that this combination in lotion and ointment forms was particularly valuable in the treatment of many dermatoses, particularly when secondary infection was present and a product with a low sensitizing index was required.[4]

We used this combination in a water-washable lotion base and in a petrolatum ointment base. Sixty-nine patients with various dermatologic diseases were treated (see Tables 1 and 2). Good to fair results were obtained in 63 of the 69 cases (91.3%). Irritation from the preparations was noted in only two instances.

3. Allison, S. D., The Schoch Letter, 1954, Item 54.

4. Allison, S. D., *Am. Pract. & Digest Treat.*, 7:1119, 1956.

The results were classified as "good" when the eruption cleared and there was relief of pruritus within a week. "Fair" means that there was relief of pruritus and the dermatitis showed gradual clearing within two to three weeks. "Poor" indicates no relief of pruritus or dermatitis.

DISCUSSION

Both the lotion and ointment produced good results in most of the dermatoses treated. The lotion was particularly useful in cases of seborrheic dermatitis involving the external ear canal since there was no accumulation of petrolatum as frequently happens following extensive use of ointment-based medications. The ointment was used by many patients with contact dermatitis in which vesiculation was not a prominent factor, and uniformly good results were obtained. Vesicular eruptions benefitted from the added drying action of the lotion. It was further noted that the combination was helpful when secondary infection had occurred, particularly in contact dermatitis. It was also useful when sensitivity to antibiotics was a factor. Neurodermatitis and rosacea were generally helped by the combination, but psoriasis and moniliasis did not respond as well.

The miscellaneous dermatoses treated with the lotion and ointment included asteatosis, atopic eczema, nummular eczema, stasis dermatitis, dermatophytid of the hands, and one case of *Tricophyton rubrum* infection of the palms. Improvement was noted in most cases. Only the fungous infection did not respond favorably.

CONCLUSION

A combination of iodochlorhydroxiquin 3% and hydrocortisone 1% was used in lotion and in ointment bases and found to be a valuable adjunct in treating several dermatoses — particularly contact dermatitis when secondary infection was present, seborrheic dermatitis and neurodermatitis. This investigation showed that it has a low irritating and sensitizing index, and that it is useful in the treatment of a number of dermatologic conditions.◀

Epileptic Seizures

Epileptic-type seizures may be induced in anyone by alterations in cerebral physiology. Seizures so induced cannot be differentiated clinically or electrically from epileptic seizures. A seizure may be precipitated in the young child more easily than in the adult. There is also variation in susceptibility among individuals.

The diagnosis of epilepsy is dependent upon the witnessing of repeated epileptic seizures or an adequate history of such seizures. A good neurologic and funduscopic examination are essential for the clinical evaluation of seizures once a diagnosis has been made. An EEG is an aid to diagnosis and a means of obtaining evidence of localized brain lesions responsible for seizures. A roentgenogram of the skull, when positive, is often an accurate index of the location and pathologic aspects of brain disease.

Mulder, D. W., *Proc. Staff Meet. Mayo Clin.*, 33: 467-474, 1958.

ORIGINAL ARTICLE

Cobalt-60 Radiation

Several unique features make cobalt-60 radiation superior to the radiation produced by x-ray

GEORGE COOPER, Jr. M.D.,* *University, Virginia*

The greatest change in recent years in the field of radiation therapy, and one of the important changes in the practice of medicine, has been made possible by the emergence of cobalt-60 radiation as a practical, useful therapeutic measure.

When radiation is used in the treatment of subcutaneous cancer, the objective is to introduce a "cancericidal" amount of ionizing energy into the tumor while subjecting those intervening and surrounding tissues which cannot be left out of the beam to an amount which they can survive. All physicians are familiar with the reactions which usually prevent the accomplishment of that objective with radiation energy produced by x-ray tubes activated by potentials of up to 400 kilovolts. Radiodermatitis, mucositis, bone marrow depression and radiation sickness, coming on acutely during therapy, often force the radiologist to stop far short of the "cancericidal" dosage.

It has long been known that radiation produced by x-ray tubes activated by one million volts or more comes much nearer the goal. This is because the higher the voltage activating the tube, the shorter the average wave length of the x-rays produced. And the shorter the wave length of the x-rays, the more penetrating is the beam, so that a larger

*From the Department of Radiology, University of Virginia School of Medicine and Hospital, Charlottesville, Virginia.

percentage is absorbed in the deeper tissues.

TREMENDOUS REDUCTION IN COST OF SUPERVOLTAGE THERAPY

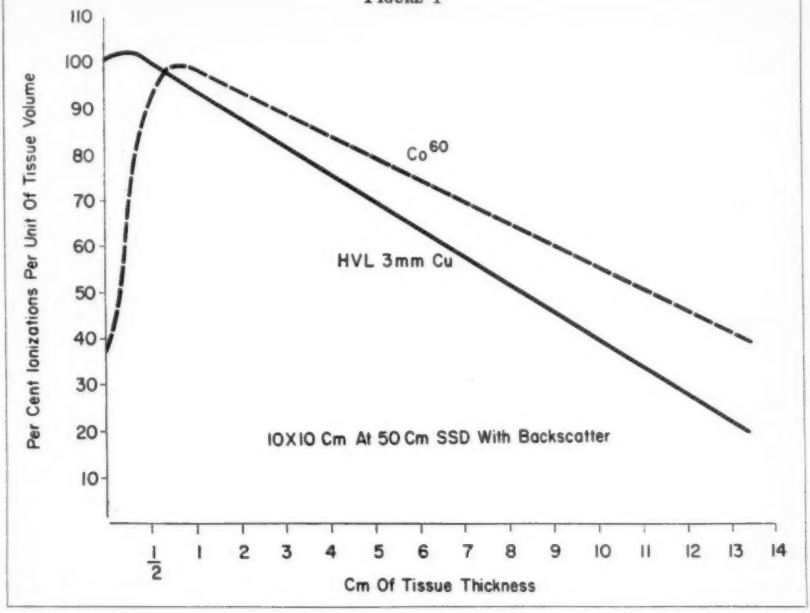
Unfortunately, units housing x-ray tubes capable of withstanding activation by one million volts or more need considerable space, cost a great deal, and are expensive to maintain. Though a few twenty-million volt units are in operation, the economic factor has restricted super-voltage x-ray therapy to large, wealthy institutions. However, this economic factor also stimulated investigation of equivalent beams, which has led to the development of the cobalt-60 teletherapy unit. Most of the manufacturers of x-ray equipment now offer several models, in a price range practical for many radiologists; cobalt-60 radiation is coming into general use, and is already available to a large percentage of the population.

SOME DETAILS ABOUT THE NEW UNIT

The essential part of the unit is a heavy lead and tungsten head which houses the radioactive cobalt source. The head is usually a modified teardrop shape and measures several feet in diameter. It contains an electrically operated mechanism which carries the source to an opening in the head in the "on" position, and buries it behind protective shielding in the "off" position. The rest of the unit consists of mounting for the head with different features in different units, permitting varying degrees of flexibility in angling and rotating the head. There is also a special stretcher for the patient which usually can be maneuvered mechanically and by hand. All of the mechanical parts of the units are operated by the current supplied by an ordinary 110 volt line.

Radioactive cobalt, $_{27}Co^{60}$, is obtained by adding a neutron to $_{27}Co^{59}$, the ordinary stable metal which occurs naturally in large quantity. This is done by bombarding stable cobalt with a stream of neutrons in a nuclear reactor. The $_{27}Co^{60}$ atom, consisting of 27 protons and 33 neutrons, contains intolerable inner tensions, resulting in a series of subatomic rearrangements which relieve the tension and end in the restoration of stability. First, a neutron breaks up into a proton and an electron. The electron is ejected. This leaves an atom made up of 28 protons and 32 neutrons. The atomic weight is therefore still 60. But this atom is an old familiar friend, the element nickel. Its electron shells, however, are in what the physicists call an excited state. Their rearrangement to a low-energy state, which takes place immediately after the electron has been ejected, is accompanied by the release of atomic energy, after which stability exists. The $_{27}Co^{60}$ atom, then, is a beta emitter, and the excited state nickel atom is a gamma emitter. The transition from $_{27}Co^{60}$ to $_{28}Ni^{60}$ takes place at such a rate that half of the $_{27}Co^{60}$ is converted every 5.3 years. As the conversion from $_{27}Co^{60}$ to $_{28}Ni^{60}$ proceeds, the remaining $_{27}Co^{60}$ continues to emit the same quality beam. That is, as time passes, the beam from a cobalt-60 surce does not become less penetrating, it just takes longer to deliver the same dose. The gamma emission is of two energies, and two energies only—1,330,000 electron volts and 1,170,000 electron volts, so that the beam is, for all practical purposes, homogeneous. In contrast, the average energy wave of the heterogeneous beam of x-rays produced by an x-ray tube activated by 250 kilovolt potential is 150,000

FIGURE 1



electron volts. The energy of cobalt-60 radiation is the equivalent of that produced by a 2,000,000 volt x-ray unit.

SOME CHANGES IN MODUS OPERANDI OF THE RAYS

If the cobalt-60 and 250 kilovolt x-ray beams are plotted on a graph whose abscissa measures centimeters of tissue thickness and whose ordinate measures the percentage of ionizations per unit of tissue volume (Fig. 1), several other points of interest may be noted. In the first few millimeters of tissue, the percentage of ionizations per unit of tissue volume produced by the 250 kilovolt beam rises to over 100 per cent, but that produced by the cobalt-60 beam is only about 40 per cent. Orthovoltage x-radiation produces radiodermatitis with far smaller air dosage than does cobalt-60 radiation. The relative freedom from skin reaction when using the cobalt-60 beam permits the patient to go through a course of therapy with greater ease, thus reducing a major obstacle to the delivery of a high tumor dose.

The percentage of ionizations per unit of tissue volume for the 250 kilovolt beam falls off rapidly after the beam passes through the superficial millimeters of tissue. In contrast, the percentage of ionizations for the cobalt-60 beam rises to maximum at a depth of 5 millimeters then starts falling off, but more slowly. The clinical importance of this part of the graph lies in the fact that for the same air dose, the depth dose produced by the cobalt-60 beam is significantly higher than for the 250 kilovolt beam. Whereas, with the latter beam, the radiologist must usually

be satisfied to deliver 3200 to 4000 *r* tissue dose to a deep-seated tumor, he can usually exceed a tissue dose of 5000 *r* with the cobalt-60 beam.

GREATER ABSORPTION IN ATOMS OF HIGHER ENERGY

Another clinical advantage of the cobalt-60 beam is due to its extremely high energy level (over one million electron volts) and the complete absence of low energies. With the 250 kilovolt x-ray beam there is an average energy of 150,000 electron volts and a heterogeneous beam ranging down to lower energy levels, how low depending on how little filtration is used. At these lower energy levels, there is greater absorption in atoms of higher atomic number, whereas at the energy level of the cobalt-60 beam, absorption of energy, gram for gram of tissue, is essentially the same regardless of chemical composition. So the cobalt-60 beam is not, and orthovoltage x-radiation is, absorbed selectively by bone because of its high calcium content. This is reflected clinically in a reduction in bone marrow depression when the cobalt-60 beam is used. This feature is also responsible for the clinical observation that there is less radiation sickness with the cobalt-60 beam. The even tissue absorption is particulary useful when children's skeletons, with their highly susceptible growth zones, have to be placed in a beam of iodizing energy, and when cartilage has to be irradiated in patients of any age.

GETTING CLOSER TO THE GOAL

The qualities of the cobalt-60 beam which qualify it so well for the handling of certain problems involving malignancies do not permit the radiologist to reach his objective—the introduction into the tumor of a "cancericidal" amount of ionizing energy while subjecting those intervening and surrounding tissues which cannot be left out of the beam to an amount which they can survive—but they permit him to come closer to the goal. In relatively few subcutaneous malignancies is the differential great enough for the normal tissues to survive truly "cancericidal" dosage. So dramatic improvement in cancer cure rates must still await new methods of treating the disease, or a way to increase the susceptibility of malignant cells to ionizing energy.

CONCLUSION

In the meantime, the cobalt-60 beam, and other beams of comparable energy, make it possible to introduce into subsurface lesions significantly larger tumor doses, to introduce the same tumor dose in fewer days, and to accomplish these two important advances with little or no skin reaction and with much less bone marrow depression and radiation sickness. The result is better palliation of incurable malignancies and perhaps a slightly higher cure rate.

Radiation of the energy order of the cobalt-60 beam is preferred to orthovoltage x-radiation in the treatment of tumors in the head and neck, and in the thoracic, abdominal and pelvic cavities whenever a large tumor dose is needed. The same is true of deep-seated tumors in the musculoskeletal system which need a large tumor dose.

When it is necessary to introduce radiation through skin damaged by previous radiation, advantage can be taken of the skin-sparing effect of the high energy, homogeneous beam, even though the tumor dose needed is not large and even though the lesion is immediately subcutaneous.

The bone-sparing effect of the high-energy, homogeneous beam makes it desirable when a child's skeleton must be exposed to ionizing radiation. Its cartilage-sparing effect is useful at all ages.

The cobalt-60 teletherapy unit obviously is not the solution to the cancer problem, but it brings the very real advantages of supervoltage quality radiation within reach of our entire population.◀

Carcinoma or Cardiospasm?

Carcinoma of the fundus of the stomach may extend into the lower esophagus, insidiously narrowing the lumen and producing clinical and X-ray features simulating cardiospasm. The significant points to be noted in differentiating the two lesions on roentgen study are the identification of a gastric mass, limited distensibility of the fundus of the stomach, alterations in the course and motor activity of the esophagus, an eccentric lumen and changes in the position and contours of the esophagogastric region.

Esophagoscopy is extremely important in these cases. An accurate radiologic diagnosis indicates to the esophagoscopist where to concentrate his search for the underlying lesion. In these cases the mucosa of the esophagus is frequently intact, and only histological study of the biopsy specimen reveals the submucosal extension of cancer.

Eliasoph, J., & Marshak, R. H., *Connecticut M.J.*, 22:712-716,1958.

Adolescence can be almost unbearable to the boy or girl with acne. And, unfortunately, the self-consciousness and embarrassment that accompany acne do not always disappear when the acne is controlled. These emotional scars too often remain.

Many of the acne cases you see will respond to treatment with 'Acnomel'. Improvement is often apparent in a matter of days, rather than in weeks or months.

Flesh-tinted 'Acnomel' conceals acne pimples and lesions as it heals them. Its special vehicle makes 'Acnomel' nonstaining, easy to apply and to remove. And Acnomel's three proven ingredients—sulfur to reduce sebaceous secretion, resorcinol to dry the skin and expel keratin, and hexachlorophene to control bacterial infection—assure complete topical treatment for acne.

'Acnomel' is available in both Cream and Cake form: Cream for use at home, and Cake (in a handy compact) for use away from home. Used together, 'Acnomel' Cream and Cake provide effective, convenient 24-hour therapy.

Acnomel* conceals as it heals

Smith Kline & French Laboratories

*T.M. Reg. U.S. Pat. Off.

ORIGINAL ARTICLE

Management of Musculoskeletal Disorders in General Practice

Recommendations are made on the use of meprobamate on an ambulatory basis for patients with orthopedic disorders

ARTHUR B. WEIN, M.D., *Washington, D.C.*

Techniques for management of musculoskeletal disorders remain rooted in the 19th century, despite the many refinements of recent years. This has meant predominant attention to repair of the injury (with or without immobilization), dry or moist heat, analgesics and physiotherapy. Many general practitioners are dissatisfied with the present management of osseous, cartilaginous, ligamentous and muscular injury, and recognize the techniques as deficient, particularly in the absence of means for rapid control of muscle spasm.[1] Where more or less severe disablement does not result from prolonged convalescence, the painful, slowly-healing injury frequently keeps a person out of work for weeks, sometimes months. Any regimen permitting a shorter hospitalization and curtailing the period of outpatient convalescence should be seriously considered.

Not until 1955 did investigators testing various muscle relaxant compounds achieve consistent success. At that time, Selling[2] reported encouraging results from use of the mephenesin derivative, meprobamate. Al-

1. St. Whitelock, O. V., *Ann. New York Acad. Sc.*, 73:381-538,1958.

2. Selling, L. S., *J.A.M.A.*, 157:1594-1596,1955.

though animal studies[3] had shown the drug's potent skeletal muscle relaxant activity, and other investigators[4-6] had confirmed Selling's early work, it was not until 1958 that orthopedists began to really appreciate what this muscle relaxant could mean to convalescent care and rehabilitation of musculoskeletal disablement.

According to previous experience,[7-9] meprobamate should be used as an adjuvant in the management of orthopedic conditions, by virtue of three properties:

1. Its ability to rapidly and safely relax skeletal muscle in spasm—almost always a problem in traumatic injury.
2. Its ability to mitigate or relieve the frequently associated anxiety.
3. Its low toxicity.

Other recent investigators[10,11] are generally in accord with this evaluation.

In early clinical trials, meprobamate was found to be not only an exceptionally potent muscle relaxant, but also one which acted without influencing the autonomic nervous system.[9] Of 68 patients in an earlier series, 62 (91%) were relieved of muscle spasm after administration of meprobamate.

CLINICAL REPORT

Since preliminary trials, the author has had much experience with meprobamate as an adjuvant in the management of musculoskeletal injury. Tentative conclusions presented earlier[9] remain unchanged, and experience of the larger series permits positive statements that earlier could have been termed premature.

STUDY CONDITIONS

In expanding our prior study group of 68 patients to the present total of 197, every effort was made to retain the same environmental conditions. As before, patients were not aware of any muscle relaxant qualities in the drug prescribed. Attention was not directed to the medication, other than the usual caution to the patient that progress could be expected only if it were taken faithfully. This study was made on 197 consecutive, unselected patients treated in private practice for orthopedic disorders over a period of 24 months.

One hundred patients had fractures or skeletal disorders associated with arthritic disease or degenerative bone processes, 97 suffered traumatic injury to muscles or connective tissue intimately associated with the skeletal might well be expected to diagnose those which the general practitioner system. Most of the infirmities were and treat, some of them with the benefit of orthopedic consultation.

MEDICATION

Meprobamate* therapy was begun immediately after preliminary treatment of the underlying disorder, generally continued for 21 to 30 days, longer in many cases, in several for 12 to 20 weeks after discharge from the hospital.

Optimum dosage was determined as that required to produce full muscular relaxation without interference with activity or mobility. Dosage range was from 600 mg. to 3200 mg. daily,

3. Berger, F. M., *J. Pharmacol. & Exper. Therap.*, 112:415-423,1954.
4. St. Whitelock, O. V., *Ann. New York Acad. Sc.*, 67:833-884,1957.
5. Gillette, H. E., *Int. Rec. Med.*, 169:453-468,1956.
6. Lamphier, T. A., *Ann. New York Acad. Sc.*, 67: 810-815,1957.
7. Cooper, C. D., & Epstein, J. H., *Am. J.M. Sc.*, 235:448-451,1958.
8. Cobey, M. C., *Am. Surgeon*, 24:350-353,1958.
9. Wein, A. B., *M. Ann. District of Columbia*, 27: 346-349,1958.
10. Sprauer, V. J., *Int. Rec. Med.*, 171:130-133,1958.
11. Steinberg, C. L. *Am. J.M. Sc.*, 235:157-163,1958.

*Meprobamate available as *Equanil*®, Wyeth Laboratories Inc., Philadelphia.

Even with a cold

New long acting[1,2,3]

Rynatan®

Keeps heads crystal clear

10-12 hours with a single oral dose with remarkable lack of side effects[1,2]

***DURABOND**

A new principle in medicine that controls absorption rather than dissolution or release, independently of gastrointestinal motility or specific pH. Maintains constant rather than sporadic blood levels, hence no over-release or under-release. This gives smooth therapeutic results, rare incidence of side effects. Works even in liquid form for children (Rynatan Suspension).

***Neisler Exclusive, Patent Pending**

RYNATAN TABULES...
For adults and older children

RYNATAN SUSPENSION...
For children (as young as 6 months)

Rynatan contains:	Each tabule	5 cc. suspension
Phenylephrine tannate	25.0 mg.	5.0 mg.
Prophenpyridamine tannate	37.5 mg.	12.5 mg.
Pyrilamine tannate	37.5 mg.	12.5 mg.

Dose: q. 12 h.: Tabules 1-2. Suspension: Children under 6 yrs. ½-1 tsp.; over six 2-3 tsp.

Entirely new long acting oral nasal decongestant
chemically and physically different—utilizing the DURABOND* principle[2,3]

Longest relief of any medication
comfort all day or all night with a single oral dose[1]

Remarkable lack of side effects
"...of 311 patients, incidence of side effects was only 2.2 per cent. Evidence of sedation was (only) 1.2 per cent."[4]

Stops excessive post-nasal drip
and resulting night cough, irritation, secondary infection

1. Lawler, E. G. and Limperis, N.M.: Clin. Med. (Dec.) 1958. 2. Medical Science, 3:376-377 (Mar 25) 1958. 3. Cavallito, C. J. and Jewell, R.: J. Am. Pharm. A (Scient. Ed.) 47:165-168, 1958. 4. Antibiotic Med. & Clin. Therapy 5:578-581 (Sept.) 1958.

Samples and literature on request

Neisler

IRWIN, NEISLER & CO., DECATUR, ILLINOIS

Available in Canada through Lakeside Laboratories (Canada) Ltd., Toronto

with a mean dose of 400 mg. four times daily. In case drowsiness resulted, mephentermine*, a pressor agent with amphetamine-like properties that acts to dispel sleepiness and fatigue without producing excitation, was given.

EVALUATION OF RESPONSE

Response was charted as excellent, good, fair, poor, or none. Excellent response was recorded only where complete relaxation of skeletal muscle occurred without impairment of muscle function, *and* response to rehabilitative efforts was more complete and recovery from the orthopedic injury more rapid than ordinarily would be expected from experience with similar injuries.

Presence or absence of muscle spasm was determined by palpation of the affected muscle groups, and by testing of the pertinent reflexes and range of motion where possible. More precise techniques exist for evaluation of muscle tone (electromyography[12,13]), but all seem inappropriate to the clinical standards maintained in this study.

In view of reports of allergic-type skin reactions occurring in meprobamate therapy,[14] the patients were meticulously examined and regularly questioned.

RESULTS

Patients with direct injury to nonosseous structures responded to meprobamate substantially better than did those with muscle spasm secondary to bone damage. This continued study has also shown that previous findings[7] have been strengthened concerning the ambulatory patients who tend to respond more rapidly and satisfactorily than those confined to bed.[9]

Somewhat fewer "fair" responses were recorded in the 197-patient series than could have been anticipated from our earlier work. This improved response may be attributed to less reluctance late in the study to use larger doses.

As in our earlier series, side effects other than drowsiness were not observed. Only 11 of the 197 became drowsy. Mephentermine was given to these 11 with excellent results in nine; the remaining two complained of nervousness and insomnia.

COMMENT

Generalizations about the potency of pharmacologic agents always are dangerous. Too often, the drug brought out as potent for great good and no evil turns out to be more harmful than beneficial. Some investigators have cautioned against the ill effects of meprobamate,[15] and by accumulating reactive patients from study to study have compiled statistics in support of their point. Such tabulations belong in the literature, but in accepting them it should be remembered that the very same drug affords tremendous benefit to almost all other patients without causing untoward reactions.

It should be recognized that a rare patient will develop untoward symptoms of an allergic nature following meprobamate dosage. However, this is no reason to refrain from prescribing meprobamate, provided precautions are taken to identify such reactions when they occur.

Meprobamate is a potent agent, but no excuse exists for its indiscriminate

*Mephentermine available as *Wyamine®*, Wyeth Laboratories, Inc., Philadelphia.

12. Dickel, H. A., et al., *West. J. Surg.*, 64:197-201, 1956.
13. Vazuka, F. A., *Neurology*, 8:448-454,1958.
14. Hollister, L. E., *Ann. Int. Med.*, 17-29,1958.
15. Anon., *J.A.M.A.*, 166:1332,1957.

prescription. Yet where no other agent performs so well among so many patients, the physician would be remiss in neglecting to use it. Such is the present situation, in our opinion, with meprobamate.

DISCUSSION

In our hands, meprobamate has proved entirely safe. The drug has been tested and accepted in general medical practice over the past four years, and can be relied upon to produce satisfactory muscle relaxation in management of musculoskeletal disorders.

Among patients in our study group, drowsiness was the only side effect. In about five percent of the series, mephentermine was given to counteract sleepiness, and two patients complained of insomnia. This last reaction brought modification of the mephentermine dosage schedule. Previously, one 25 mg. tablet of the pressor agent was given with each 400 mg. tablet of meprobamate. Following complaints of sleeplessness, dosage level was reduced to one 25 mg. tablet twice daily, after breakfast and the midday meal. Since drowsiness upon the approach of bedtime proved unobjectionable to any of those receiving mephentermine, the modified regimen discouraged abnormal mental stimulation and thus permitted restful sleep. When using this drug, administering the last dose for the day earlier than 4 p.m. will help assure restful sleep. Analysis of response among the first 68 patients made it obvious that dosage could be increased enormously without disturbing autonomic function.

Patients who later received the larger daily meprobamate dosages tended before therapy toward the nervous temperament; some displayed an anxiety-tension syndrome. Whether this condition arose from their orthopedic condition or antedated it could not be established, although our impression favored the former. While the primary intent of the present study was muscle relaxation, among those patients exhibiting some degree of nervous tension, palliation and often remission of all symptoms, including anxiety, was noted.

We continued to observe, as in our earlier series, easing of pain following administration of meprobamate.

SUMMARY AND CONCLUSIONS

Meprobamate, by virtue of its muscle relaxant action, may well play a significant role in development of new therapeutic approaches toward convalescent care and rehabilitation of disablement resulting from musculoskeletal disorders. In our experience, now extending over 24 months, administration of meprobamate brings prompt relief from muscle spasm and alleviation from concomitant anxiety. In all 197 patients treated, muscle relaxation was sufficient to permit surgical or nonsurgical repair of the injury and to encourage rapid healing. Mephentermine, given after the first two daily meals, will dispel the drowsiness of the few patients exhibiting this symptom. Omitting drowsiness from consideration, incidence of side effects should be no higher than for other agents considered minimally toxic. In our opinion, meprobamate appears superior to other muscle relaxants now available for treatment of orthopedic disorders.◀

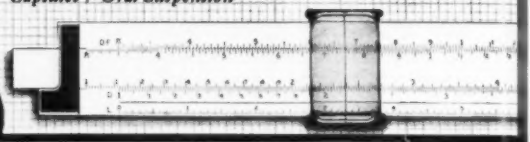
℞ PRONOUNCED TAY-O

Tao*

(triacetyloleandomycin)

Capsules / Oral Suspension

designed for superior control of common Gram-positive infections



in the patient:

95% effective in published cases[1-9]

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	–	6
Otitis media	31	29	2	–
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	–
Abscesses	51	43	8	–
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	–
Pyoderma	19	19	–	–
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	–
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	–
Urethritis with gonorrhea or cystitis	8	8	–	–
Pyelonephritis	4	1	–	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	–	–
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	42	30	8	4

ORIGINAL ARTICLE

Ovarian Tumors and Pregnancy

Clinical findings, stage of gestation and presence of complications must be weighed in the management of ovarian tumors

HARRY M. NELSON, M.D.,* and PADRAIG CARNEY, M.D.,†
Detroit, Michigan

Our interest in ovarian tumors associated with pregnancy was renewed by the occurrence of six such cases during 1957. All of the cases presented unusual features, both clinically and histologically, and each demonstrated the difficulties involved in accurately diagnosing this type of tumor.

INCIDENCE

The six cases in this series occurred in 4,325 pregnancies admitted to hospital during the year 1957—an incidence of 1:720 pregnancies. This is higher than it would be, it must be presumed, if the study covered the experience of a longer time. The interrelationship between incidence and specific signs and symptoms is well illustrated by the many studies in this field. In 1950 the world's literature on this subject published during the previous 15 year period was reviewed, and only 30 instances of solid ovarian tumors complicating pregnancy were found.[1] Six additional cases were reported at that time which had occurred in 60,000 deliveries over a ten year period. This series thus showed an incidence of 1:10,000, which is 1/14 the incidence in the present series.

*Chief of the Department of Gynecology at Woman's Hospital, and Associate Clinical Professor in OB-GYN at Wayne State University, School of Medicine, Detroit.
†Chief Resident in OB-GYN, Woman's Hospital, Detroit.

1. Dougherty, C. M., & Lund, C. T., *Obst. & Gynec.*, 60:261,1950.

Another source reported 45 surgically proved ovarian tumors, six cm. or more in diameter, which had occurred in 100,000 pregnancies over a ten year period.[2] This is an incidence of 1:2,222, more than four times the incidence reported earlier, and one-third the incidence in this series. These enormous discrepancies show clearly enough that no definite conclusion can be drawn at this time regarding the true incidence of ovarian tumors associated with pregnancy.

It is of interest to note that ovarian cysts occur more frequently than solid tumors; an incidence of 1:304 pregnancies has been recorded.[3]

PROBLEMS IN DIAGNOSIS

Any variety of ovarian tumor may be discovered during pregnancy, the most common, of course, are those that have their highest incidence during the reproductive years. In any large series reviewed, variations of physiological cysts, benign cystic adenomas, both serous and pseudomucinous, together with dysgerminomas comprise the vast majority of tumors. Ovarian carcinoma is unusual in the younger group.

It is significant that most ovarian tumors are discovered during the first trimester since as the pregnancy progresses, the enlarging uterus makes satisfactory pelvic examination more difficult. It is important, therefore, that a careful vaginal examination be performed at the first prenatal visit, keeping in mind the possibility of ovarian tumor.

Ovarian tumors may develop such complications as torsion, hemorrhage, infection and perforation. They may present all the signs of other acute disease in the abdomen. These complications are more likely to arise during pregnancy because of the increasing mobility of the tumor resulting from the softening, elongation and engorgement of the ovarian and infundibulo-pelvic ligaments. Acute appendicitis and ectopic pregnancy must be included in the differential diagnosis during the first trimester. In the second and third trimester degenerating leiomyomas, pyelonephritis, abruptio placenta and abdominal pregnancy must be added to the list of possibilities.

MANAGEMENT

In the management of ovarian tumors, three factors have to be considered in balance: The clinical findings, the presence of complications and the stage of gestation. A physiological enlargement of one ovary, produced by the corpus luteum, occurs during the early months of pregnancy and may attain a diameter of five to six cm. Cystic tumors of less than ten cm., discovered during the first trimester, must be distinguished from a cystic corpus luteum. If there is any doubt, and there are no complications, the patient should be kept under observation and the case re-evaluated during the second trimester. By this time a corpus luteum cyst will have decreased in size, while a cystic tumor of other etiology will have either remained unchanged or grown larger. If it is larger than eight cm. surgical removal is indicated.

Early in this century it was believed that abortion would result if the corpus luteum were removed during the first trimester.[4] In recent years, however, cases have been reported showing that the early removal of the corpus luteum failed to alter the nor-

2. Gustafson, Gardiner and Stout, *Obst. & Gynec.*, 67:1210.1954.
3. Haas, R. L., *Obst. & Gynec.*, 58:283.1949.
4. Fraenkel, L., *Arch. Gynäk.*, 68:438.1903.

hen your patients tell you:
can't sleep," your
liable, conservative answer is

NOCTEC

NOCTEC

Squibb Chloral Hydrate

ENERAL PRACTICE "The general practitioner likes it... can be given to patients of all ages and physical status"

ARDIOLOGY "patients with cardiac disease... no proof that it is deleterious to the heart"

ERMATOLOGY "frequently the favorite of the dermatologist... skin reactions from it are uncommon"

SYCHIATRY "The psychiatrist often finds it the agent of choice... much less likely to produce mental ...ement"

Current Concepts in Therapy: Sedative-Hypnotic Drugs II. Chloral Hydrate. New England J. Med. 255: 706 (Oct. 11) 1956

...: 1 or 2 7½ gr. capsules or 1 or 2 teaspoonfuls of Noctec Solution 15 to 30 minutes before bedtime.
...en: 1 or 2 3¾ gr. capsules or ½ to 1 teaspoonful of Noctec Solution 15 to 30 minutes before bedtime.
...: 7½ and 3¾ gr. capsules, bottles of 100. Solution, 7½ gr. per 5 cc. teaspoonful, bottles of 1 pint.

SQUIBB *Squibb Quality—the Priceless Ingredient*

mal progress of gestation. At the present time it is almost certain that all ovarian tissue can be removed without disturbing pregnancy.[5] Many patients have been carried to full term without substitutional hormonal therapy following removal of the corpus luteum in the first trimester. The rationale of using estrogen or progesterone in such cases has been questioned.[6]

VARIED THERAPEUTIC APPROACHES

Opinion is divided concerning the management of adnexal tumors in the latter half of the pregnancy. Some authorities hold that when a tumor 8 cm. or more is discovered close to term, the indicated treatment is cesarean section and removal of the tumor. Others hold that the treatment of choice is spontaneous delivery followed by surgical removal of the tumor, if necessary, at a later date. However, when the tumor lies in the pelvis the possibility of tumor praevia is real, and labor with vaginal delivery in such cases may result in rupture of the tumor. If the tumor is discovered close to term under these conditions, cesarean section with removal of the tumor is the safest procedure. Simple removal suffices, and vaginal delivery may be anticipated.

WHEN THE TUMOR IS SOLID

When a solid ovarian tumor is found, regardless of size or stage of gestation, it is an indication for immediate laparotomy to rule out malignant tumor, real or potential. The extent of the operative procedure will depend on the gross pathological findings at operation. Consultation with the pathologist is always advisable in these cases. A frozen section examination may prove helpful. If the tumor is obviously localized to the ovary, simple oophorectomy is sufficient. In the event the gross appearance is indicative of carcinoma, and in all advanced stages where bloody ascitic fluid and peritoneal seeding are present, total hysterectomy and bilateral salpingo-oophorectomy are indicated.

5. Greenhill, J. P., The 1951 Year Book of Obstetrics and Gynecology, Chicago, 1951, page 45.
6. Melinkoff, E., *Obst. & Gynec.*, 60:437,1950.

REPRESENTATIVE CASE HISTORIES

The following six cases show the problems and difficulties encountered when ovarian tumors are associated with pregnancy.

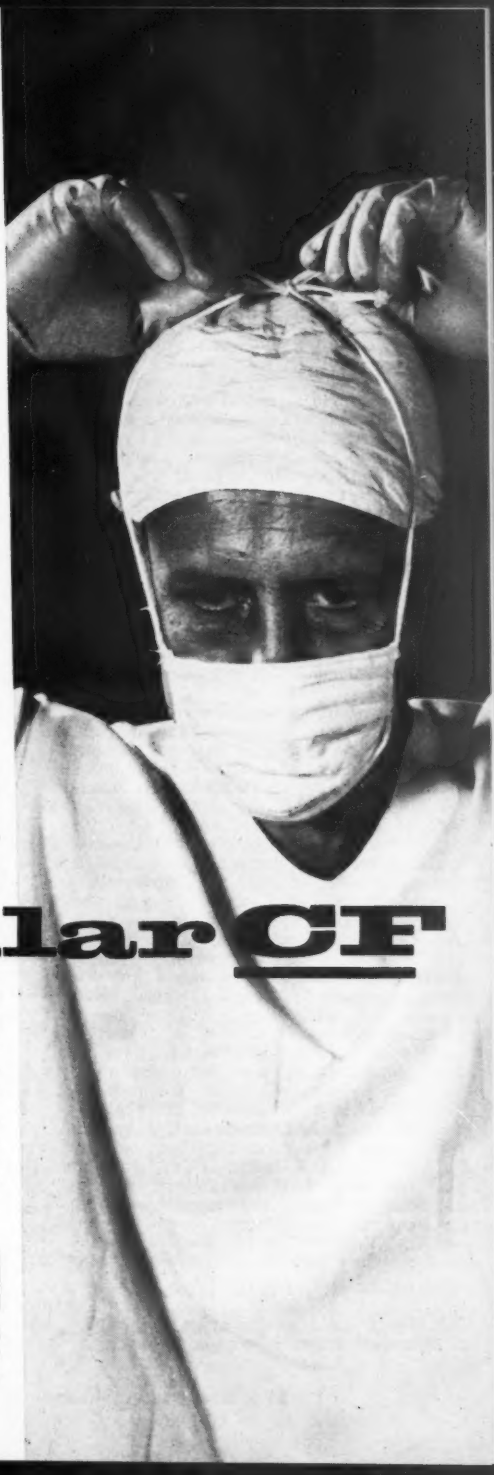
CASE 1

A 26 year old colored gravida 1, at 35 weeks of gestation, was admitted in early labor. Labor was uneventful and under spinal anesthesia she was delivered by low forceps of a premature, healthy girl, weighing 5 lb. 2 oz. Following delivery of the placenta, a large, firm, irregular, nontender and partially fixed mass, distinct from the uterus and filling the right side of the abdomen was discovered. This was apparently a large solid ovarian tumor.

X-ray of the uninjected abdomen revealed a right-sided abdominal mass, displacing to the left the ascending colon and small bowel. An intravenous pyelogram showed normal function and the abdominal mass was again apparent. Barium enema confirmed previous x-ray findings of an extrinsic mass displacing the cecum and ascending colon. Laboratory findings were hemoglobin, 9.0 grms.; R.B.C., 3,240,000; W.B.C., 12,650; C.I., 0.95; S.R., 62 m.m./hour.

At laparotomy on the tenth day, exploration revealed a right ovarian tumor, dark blue, solid, with some cystic hemorrhagic areas, adherent to and displacing to the left the cecum and ascending colon. Grossly there was no evidence of metastatic spread to the uterus, left adnexa or peritoneum, although approximately 200 cc. of blood-stained fluid was present in the peritoneal cavity. A total hysterectomy, bilateral salpingo-oophorectomy and appendectomy were performed after the pathologist's frozen section report of mucin-producing adenocarcinoma of the right ovary.

The postoperative course was uneventful, apart from a mild ileus which responded to conservative management. Deep x-ray therapy was commenced on the



When it comes to colds and coughs, surgeons are just like their patients . . . they want relief of symptoms and, if possible, to stay on the job.

Romilar Cold Formula controls the entire symptomatology of colds, including coughs. A synergistic combination,* Romilar CF

checks coryza
suppresses coughing
relieves congestion
controls fever and malaise

this surgeon takes Romilar CF

Each teaspoonful (5 cc) of pleasantly flavored syrup, or each capsule, contains: 15 mg Romilar HBr (non-narcotic antitussive); 1.25 mg Chlorpheniramine maleate (antihistamine); 5 mg Phenylephrine HCl (decongestant); 120 mg N-acetyl-p-aminophenol (analgesic-antipyretic).

*L. O. Randall and J. Selitto, *J. Am. Pharm. Assn. (Sc. Ed.)*, 47:313. 1958.

Romilar® Hydrobromide—brand of dextromethorphan hydrobromide

ROCHE

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc
Nutley 10 • N. J.

ninth postoperative day, the patient discharged on the following day to return daily for treatments. Three months after the operation the patient complained of pelvic pain, and examination revealed the presence of 2 cm. firm nodule at the incisional site. She was readmitted to the hospital with ascites and generalized abdominal metastases. Paracentesis yielded 4,000 cc. of blood-stained fluid which contained malignant cells. A course of nitrogen mustard was given intravenously and intraperitoneally, and the patient discharged.

She was readmitted three weeks later with ascites and intestinal obstruction. The latter responded to conservative measures. Her general condition deteriorated rapidly and, at the family's request, the patient was discharged. She expired one week later, six months from the time the diagnosis was established. No autopsy was obtained.

CASE 2

A 43 year old gravida III, para II, at 38 weeks' gestation, was admitted with severe right lower quadrant pain of four hours' duration. The pain was constant and not associated with uterine contractions.

Examination revealed tenderness and guarding confined to the lower right quadrant. The fetal heart beat was regular, rate 140. There was a history of pneumonectomy nine years earlier for bronchiectasis. Dyspnea on exertion had developed during the pregnancy, and since x-ray revealed bronchiectasis in the remaining lung, the patient was scheduled for a cesarean section and sterilization. The pain persisted and increased in severity, and abruptio placenta was considered but not thought likely.

A cesarian section was performed eight hours after onset of pain and a healthy fetus extracted. The uterine incision was closed, and exploration of the abdomen revealed a large right ovarian cyst, the pedicle of which had twisted through 360°. Oophorectomy was performed, care being taken not to untwist the pedicle. The pathologist reported a 930 gm. 17x14x7 cm. pink, hemorrhagic smooth ovarian cyst, which on section contained amber fluid. The internal lining had a smooth, pink, markedly congested appearance. The diagnosis was given as pseudomucinous cystademona. The postoperative course was uneventful and the patient was discharged on the eighth day.

CASE 3

A 29 year old colored gravida II, para O, at 28 weeks' gestation, was admitted with the complaint of severe lower abdominal pains for two months. The severity of the pain in the preceding three weeks had produced insomnia. At the first prenatal visit, eight weeks' gestation, a 6 cm. mass had been palpable anterior to the uterus, which was itself enlarged and nodular. On admission, the uterus extended two inches above the umbilicus. The fetal heart was regular, 132. The 6 cm. mass previously noted was now 10 cm. in diameter, and lay on the right flank. Smaller nodules were palpable in the left half of abdomen and left flank. A diagnosis of degenerating leiomyoma and possible ovarian tumor was made.

An exploratory laparotomy was performed under spinal anesthesia. A right cornual 10x9 cm. pedunculated degenerating leiomyoma was noted in the uterus, which was enlarged to the size of a 28 week gestation. The left ovary contained a 10 cm. cyst which on aspiration yielded a thick yellow material. Myomectomy and left oophorectomy were performed. The pathology report was benign cystic teratoma of the left ovary and leiomyoma, degenerating, hyalinized.

The postoperative course was uneventful and the patient was discharged on the sixth day. Pregnancy continued satisfactorily and four months later the patient was delivered by low forceps, under spinal anesthesia, of a healthy girl.

CASE 4

A 20 year old white primigravida was admitted with a right ovarian mass which had increased in size since the time of the first prenatal visit two months earlier. The mass was estimated to be 10 cm. in diameter. The size of the uterus appeared normal for the period of gestation. A right salpingo-oophorectomy was performed and a 10 cm. smooth, pink-gray ovarian tumor was removed which contained hair, sebaceous materials and teeth. The diagnosis of benign cystic teratoma was made.

The postoperative course was uneventful and pregnancy continued to term with delivery of a normal 7 lb. 2 oz. boy.

CASE 5

A 30 year old white gravida VI, para V, at 14 weeks' gestation, was admitted with severe lower abdominal pain of eight hours' duration. Right lower quadrant tenderness and guarding were present. There was a palpable tender right adnexal mass separate from the pregnant uterus. A pre-operative diagnosis of twisted ovarian cyst was made, and confirmed by laparotomy. A right salpingo-oophorectomy was performed. The pathologist's re-

port was benign cystic teratoma (dermoid). The postoperative course was uneventful and the patient was discharged on the seventh day. Pregnancy continued to term with delivery of a 9 lb. 11 oz. boy.

CASE 6

A 29 year old white gravida II, para I was admitted with severe right lower quadrant pain of eight hours' duration. Patient gave a history of abdominal swelling for 10 years. Nine years earlier a diagnosis of tuberculosis peritonitis had been made. Four years earlier the patient had an uneventful pregnancy, although the abdomen had been excessively large. The present pregnancy was complicated by marked abdominal enlargement, which was attributed to ascites secondary to tuberculous peritonitis. Pain increased in severity following admission. A diagnosis of twisted ovarian cysts was made.

At laparotomy the peritoneal cavity was found to contain approximately 1,000 cc. of bloody fluid and a large ovarian cyst with torsion of the pedicle and beginning gangrene. It filled most of the abdomen. The pathologist's report was pseudomucinous cystademona.

Twenty-four hours after the operation the patient went into premature labor and delivered a 5 lb. 2 oz. baby which expired 12 hours later. The patient had an uneventful post-partum course and was discharged on the tenth day.

SUMMARY

Six cases of ovarian tumors in pregnancy have been presented. During the first trimester a cystic corpus luteum is difficult to distinguish from other ovarian cysts, and close observation is indicated until the second trimester when the corpus luteum diminishes in size.

Cystic ovarian tumors over eight cm. should be removed during the second trimester. If discovered later, removal is indicated to prevent the occurrence of tumor praevia with possible rupture at the time of delivery. Near term, cesarean section with oophorectomy is the safest procedure.

All solid ovarian tumors, regardless of the stage of gestation, warrant thorough investigation, including laparatomy.

The findings in this and other studies indicate that, in the human, the removal of the corpus luteum in the first trimester does not jeopardize the pregnancy.

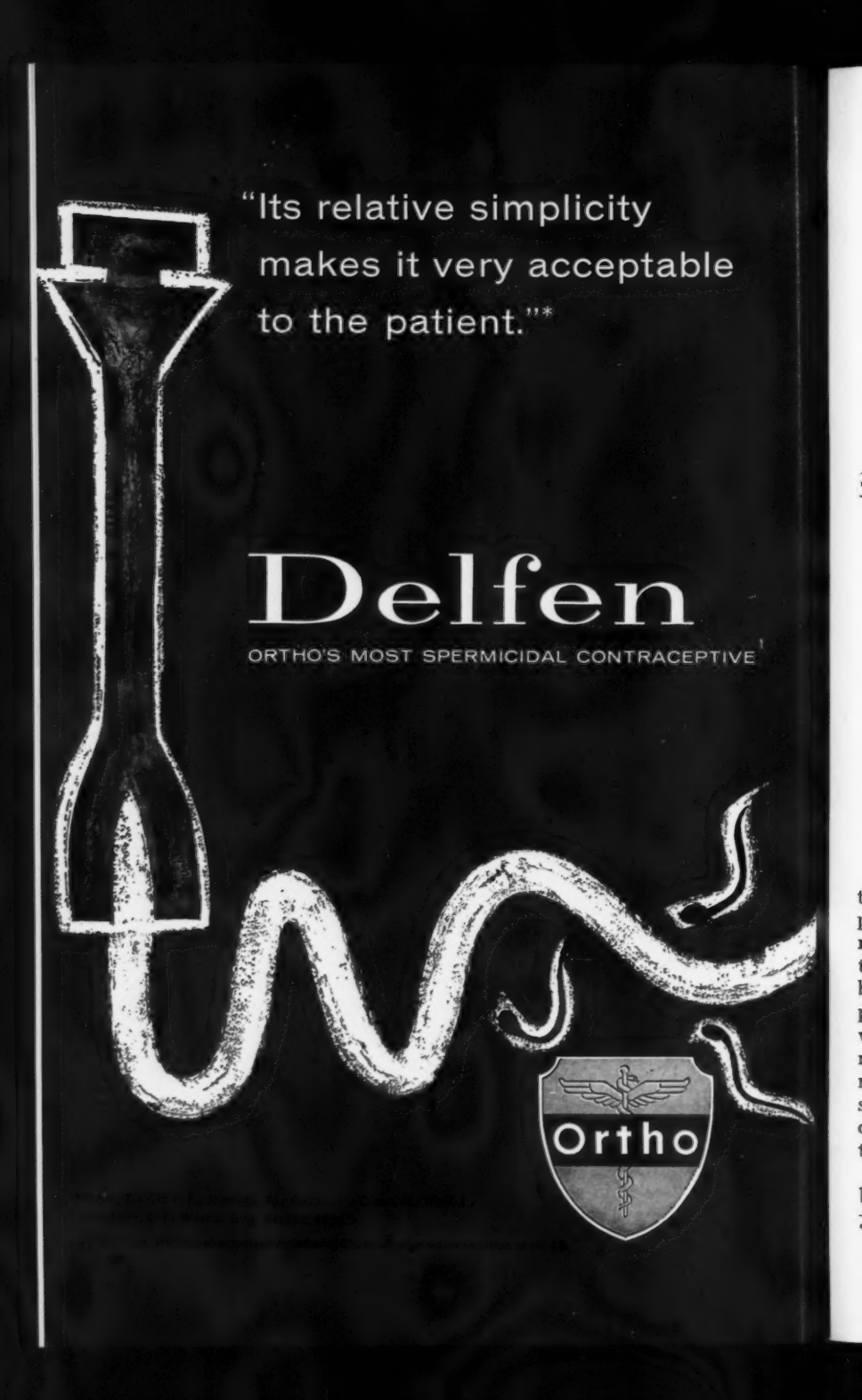
Such complications as torsion, hemorrhage and rupture demand immediate surgical therapy.◀

Anaphylactic Death from Erythromycin

It has become increasingly evident that the use of antibiotic drugs may entail danger to the patient. Many of the reactions noted are those seen in connection with the treatment of disease with serums and antitoxins. A condition analogous to serum sickness following use of various antibiotics occurs from the sixth to the tenth day after beginning antibiotic therapy. Death from acute shock due to use of these agents also has occurred, clinically typical of anaphylaxis as observed in the past in serum or antitoxin therapy.

A child with apparently minor illness when examined on admission to the hospital was given 500 mg. of erythromycin intramuscularly because of laryngeal redness and enlargement of cervical nodes. Within a few minutes generalized convulsion occurred, and in 20 minutes the child was dead. At autopsy, conditions typical of anaphylactic shock were found.

Bower, A. G., *California Med.*, 89:279-280,1958.


"Its relative simplicity
makes it very acceptable
to the patient."*
Delfen
ORTHO'S MOST SPERMICIDAL CONTRACEPTIVE
Ortho

ORIGINAL ARTICLE

Suppression of Lactation with Combined Steroids

Suppression of lactation may be accomplished with minimum distress to the patient with this therapy

OWEN F. ROBBINS, M.D., JOHN T. MOEHN, M.D., MANCEL T. MITCHELL, M.D., and JOHN B. MAUNDER, M.D.,*
Minneapolis, Minnesota

The recent trend toward a "return to Nature" by the parturient and puerperal woman—natural childbirth, rooming-in, early ambulation—is particularly evident in the emphasis on breast feeding. Without debating the physiological and psychological advantages, the majority of women do not nurse their babies. Whether the mother decides not to nurse, the physician advises against it, or the supply of milk is inadequate, lactation nevertheless distresses the mother.

Many methods and regimens have been tried to inhibit the secretion of milk. In different hands, all these measures have provided some degree of control and relief. Although our method of treatment with combined steroids is not the final solution to this problem, the excellent results obtained in 3,000 patients over eight years is considered worth reporting.

*From the Obstetrical Department, St. Barnabas Hospital, Minneapolis.

CRITERIA OF THERAPY

In selecting a regimen, efficacy, practicality, and safety were considered.

Efficacy refers to the success of the therapy in making the patient comfortable, controlling lactation, and being constant in effect for the peace of

mind of patient and physician.

Practicality of administration requires a regularly-scheduled oral medication. This is important for staff convenience and for patient acceptability, and patients are more likely to follow a simple regimen after discharge from the hospital and thereby gain the full therapeutic benefits.

Safety involves freedom from immediate and long-range side effects, such as rebound engorgement of the breasts, increased lochia, withdrawal bleeding, delayed menses, and virilization.[1-2] Side effects, though rarely dangerous, always distress the patient, who then requires more time and attention from her physician.

MECHANISM OF LACTATION

The physiology of lactation is intimately related to hormonal influences during pregnancy and immediately after delivery. During pregnancy, ductular and alveolar proliferation result from the influence of estrogen and progesterone respectively. During the first trimester of pregnancy, therefore, the breasts are prepared to secrete milk. The high estrogen titers during pregnancy inhibit the pituitary's production of the lactogenic hormone (prolactin) which is needed to initiate milk secretion. After delivery, the absence of placental estrogen permits prolactin to stimulate the breasts.

Usually milk begins to flow on the second or third postpartum day. Once nursing starts, milk production is continued through a reflex action between the breasts and the anterior pituitary. Suckling stimulates the secretion of prolactin and thus maintains the cycle of lactation.

1. Hall, G. J., & Goldzieher, J. W., Endocrine Treatment in General Practice, New York, Springer, 1953, pp. 334-344.
2. Wilson, T. M., *M. Ann. District of Columbia*, 25:489,1954.

SUPPRESSION OF LACTATION

If the woman does not nurse her baby and if no steps are taken to prevent the secretion of milk, a painful adjustment occurs during the puerperium. About two to three days after delivery in multiparas, and three to four days in primaparas, the breasts become engorged. They may become acutely enlarged and swollen, and the skin may become edematous. Because the breasts are so tender, the least motion can produce marked pain. Sedatives and strong analgesics are frequently required for relief from this distress.

These events take place when no attempt is made to prevent the production of milk. Symptomatic relief with binders, ice packs, and analgesics can be obtained while the thwarted mammary glands adjust to the fact that their product is not desired.

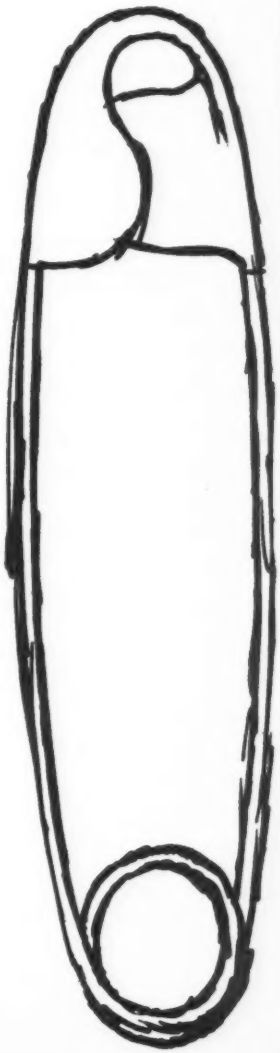
Diuretics have been used to relieve the distress of engorgement, but this method does not meet the criteria of efficacy, practicality and safety. It is more logical in theory, more economical in effort, and more effective in practice to interrupt the lactogenic cycle than to let it grind to a slow and distressful halt.

THE USE OF SEX STEROIDS

Although not completely explained, the hormonal basis for the initiation and maintenance of lactation has been recognized, and attempts have been made to interrupt the cycle of milk production by the administration of endocrine substances. Clinical trials have proved that the administration of either estrogens or androgens can suppress lactation. When given alone, however, either male or female sex hormones may produce side effects more disturbing than painful breasts.

NUGESTORAL®

in the treatment of habitual abortion



NUGESTORAL will help you bring the abortion-prone patient to term by supplying five agents known to contribute to fetal salvage. It creates an optimal environment for the maintenance of pregnancy.

CLINICAL REPORT

Fitzgerald* has reported a fetal salvage rate of 50% in a group of habitual aborters with the addition of NUGESTORAL to his standard regimen for abortion-prone patients.

*Fitzgerald, W.: Clinical Medicine, 5:1037, 1958.

Formula: A daily dose of three NUGESTORAL tablets provides 45 mg. Progestoral® (Ethisterone); 525 mg. Ascorbic Acid; 525 mg. Hesperidin; 6 mg. Sodium Menadiol Diphosphate (Vit. K Analogue); 10.5 mg. dl, Alpha-Tocopherol Acetate (Vit. E).

Issued: For greater patient economy NUGESTORAL is now available in boxes of 100 gold foil wrapped tablets as well as in boxes of 30.

Organon INC.

ORANGE, NEW JERSEY

Estrogen alone may postpone lactation rather than suppress it. Estrogen also stimulates endometrial proliferation, which results in increased lochia, and, in 12% of patients, mild to severe withdrawal bleeding.[2] Androgens act by the same mechanism as estrogen—suppression of the pituitary output of lactogenic hormone. However, androgens may cause virilization and delay in endometrial repair, and large doses are necessary because of destruction in the gastrointestinal tract.

SELECTION OF MEDICATION

A combination of steroids should avert these complications. Estrogen and androgen together exert a synergistic effect in suppressing the pituitary's secretion of prolactin. Therefore, administered together, smaller doses of each hormone can be used. Each steroid counterbalances the other's effect on sex-linked tissues, thus preventing untoward side effects. The potent anabolic influence of androgen's nitrogen retaining power is helpful after the trauma of delivery.

Natural estrogens are preferable because they are better tolerated and cause a lower incidence of withdrawal bleeding than synthetic estrogens.[3]

For these reasons, a combination of steroids, each tablet containing 1.25 mg. of water-soluble conjugated estrogens equine and 10 mg. of methyltestosterone,* was used in this study.

REGIMEN

The regimen outlined below is the basic therapy used routinely in all patients. As with any therapy, it is important to consider the individuality of each patient and make necessary adjustments. Modifications of this schedule may be required because of the presence of nausea, vomiting, delayed recovery from anesthesia, time of delivery, and other practical considerations. Other investigators have reported good results with slightly different dosage schedules.[2,4,5]

The patient who is not going to make any attempt to nurse her baby is given one tablet as soon as practicable after delivery. For the average hospital stay of five days, the patient takes a tablet three times daily for the first two days. On the third through the tenth postpartum days she takes one tablet daily. On the day of discharge and for her first nine days at home, she takes one tablet each day.

The woman who starts to nurse her baby but for whom it becomes necessary to suppress lactation is started on the same routine. She takes the medication from the first day as outlined above. Simultaneously, she begins skipping breast feedings and substituting a bottle in the following manner: One feeding the first day, two the second, and so on, until the baby is being fed entirely by bottle. This regimen has given very good results, but once lactation and the stimulation of nursing have begun, it is more difficult to suppress the secretion of milk.

No other medications are given routinely. If a patient complains of pain from engorged breasts she is given 5 mg. of stilbestrol orally. Non-nursing patients are instructed not to drink too many liquids, but restriction of fluids is not required. Analgesics are not necessary except in the rare cases of failure. However, some patients do require analgesics on the

*Premarin with Methyltestosterone®, Ayerst Laboratories, New York.

3. Glasser, J. W. H., *Bull. Margaret Hague Maternity Hosp.*, 5:1,1952.

4. Fiskio, P. W., *GP*, 11:70,1955.

5. Hall, S. C., & Taleghany, P., Report on Oral Estrogen-Androgen Suppression of Lactation. To be published.

TABLE I.

RESULTS ACHIEVED USING *PREMARIN WITH METHYLTESTOSTERONE*

Day Therapy Started	Excellent No.	%	Satisfactory No.	%	Failures No.	%	Total
1st day	690	75.2	196	21.3	32	3.5	918
2nd day	130	74.3	38	21.7	7	4.0	175
3rd day	32	68.1	12	25.5	3	6.4	47
4th day	26	60.5	13	30.2	4	9.3	43
Over 4 days	7	63.6	3	27.3	1	9.1	11
TOTAL	885	74.1	262	22.0	47	3.9	1194

first few postpartum days for other reasons, such as pain from an episiotomy.

The only routine adjunctive measure is the use of a loose breast binder of the same type worn by nursing mothers. This regimen for suppression of lactation is very simple—while the patient is in the hospital, three tablets each day for 2 days, then one daily for the next 10 days, and avoidance of stimulation to the breasts.

SELECTION OF PATIENTS

In the past eight years practically every lactation-suppressing medication and regimen has been tried. However the evidence in favor of *Premarin with Methyltestosterone* was such that it was adopted as routine therapy, and this study conducted.

The patients reported in this paper were treated during a three year period, beginning two years after our first use of the medication. During this time we delivered 2,853 women of whom 1,302 (nearly 50%), wanted or needed to avoid lactation. Of these women 1,194 received *Premarin with Methyltestosterone*. For various reasons the remaining 108 women were given other medications or none at all.

The number of patients who were given other treatment to suppress lactation during this period was not great enough to provide a control series.

RESULTS

The results were graded with reference to efficacy, practicality, and safety. Since the same dosage schedule was used for all patients and since no side effects were observed, the grading reported here was solely on the basis of efficacy. In this grading these points were considered: comfort of the patient, and suppression of lactation.

These three categories were used:

1. *Excellent:* No discomfort for the patient during the first 14 postpartum days, and successful suppression of lactation. Patients who noticed only a slight leakage of milk were included in this category.

2. *Satisfactory:* Slight engorgement on the third or fourth postpartum day but not severe enough to require any analgesics. Otherwise, successful inhibition of lactation.

3. *Failure:* Complaint of tender, painful or severely engorged breasts. Even in this group there were no side effects due to the medication.

DISCUSSION

This therapy has provided gratifying results. As noted in Table 1, 885 women (74.1%) were not even aware that this significant physiologic adjustment was taking place in their breasts, 262 (22%) noted a sensation of fullness, usually on the third or

fourth postpartum day, but suffered no discomfort from this activity of glandular tissue. Five mg. of stilbestrol was given to each of these women. In only 47 patients (3.9%) did this therapy fail to meet our standards.

The earlier after delivery that this therapy was started, the better the results. Referring to Table 1, it can be seen that when the regimen was started on the first day after delivery, 75.2 per cent of the patients were classified as having "excellent" results, 21.3 per cent as "satisfactory," only 3.5 per cent as "failure." When treatment was started on the fourth postpartum day, the results were 60.5 per cent "excellent," 30.2 per cent "satisfactory," and 9.3 per cent "failure." In general, over 90 per cent of these patients were free from the discomfort usually associated with "drying up" the breasts, but one-third of the women who did not begin treatment until the fourth postpartum day were aware that an adjustment was taking place.

The practicality of this treatment was appreciated by the hospital staff and by the patients, who much preferred tablets to injections. We also believe that the simple one-tablet-a-day routine was easy for the patients to follow after their discharge and therefore increased the success of this therapy.

No side effects or delayed reactions attributable to this therapy were observed. Other hormonal therapies have caused reactions such as nausea, vomiting, delayed menses, excessive lochia, or signs of virilization.[1,4]

SUMMARY AND CONCLUSIONS

Premarin with Methyltestosterone was used in a series of 1,194 patients to suppress lactation. The regimen was one tablet (1.25 mg. conjugated estrogens equine, 10 mg. methyltestosterone) three times daily for the first two postpartum days, and one tablet daily for the next ten days. The sooner after delivery the regimen was started, the better the results. In relation to the aims of the therapy—suppression of lactation, comfort for the patient, convenience and simplicity of administration, and freedom from side effects—this regimen was eminently successful in 96.1 per cent of the patients. There were no side effects or complications, even in the patients who did not respond favorably to the medication.◀

Chocolate as a Cause of Tooth Decay

Milk chocolate, solid or liquid, appears to be the leading offender and a major cause of tooth decay according to a report from the Department of Dairy and Animal Science at the University of Massachusetts.

Cocoa powders or chocolate syrups added to milk inhibited the growth of bacteria likely to be found in milk, with the exception of *Streptococcus lactis*. It was concluded from studies with pure tannic acid that the tannic substances of the cacao products are the agents responsible for inhibiting bacterial growth. Any inhibition of non-acid-producing microorganisms should increase the growth of acid producers because of lack of competition.

Mueller, W. W., *J.A.M.A.*, 168:436,1958.

ORIGINAL ARTICLE

The Present Status of the Arterial Graft

Using the arterial grafts, surgical intervention in degenerative and proliferative arteriosclerosis is often beneficial

A. W. HUMPHRIES, M.D.,* V. G. DE WOLFE, M.D., and F. A. LE FEVRE, M.D., *Cleveland, Ohio*

During the past five to seven years much practical experience has been gained in the direct surgical treatment of various forms of arteriosclerosis affecting the major vessels of the body. Throughout this time our opinions regarding the natural history of these conditions and their proper treatment has been constantly changing. This change is still going on. However, periodic reports are in order so that others may keep abreast of the current practices of those specializing in the field.

The pathologic variants of arteriosclerosis in major vessels are degeneration and proliferation. The degenerative variety of arteriosclerosis results in the formation of aneurysms, the proliferative form results in partial or complete occlusion of the lumen of a major artery. We shall discuss these forms separately.

ANEURYSM

The aneurysms with which we are directly concerned are those of the aorta and of the vessels of the leg. Thoracic aneurysms are far less common than those in the abdominal portion of the aorta. With present surgical techniques graft replacement of the few which arise distal to the left

*Member of the Staff, Department of Vascular Surgery, The Cleveland Clinic Foundation, and Assistant Professor of Vascular Surgery, The Frank E. Bunts Educational Institute, Cleveland.

subclavian artery is a reasonably standard surgical procedure. When the aneurysm involves a portion or all of the arch, the surgical mortality remains high.

Popliteal aneurysms are unique due to their physical location in the fossa behind the knee, which is frequently kept in a flexed position. Popliteal aneurysm may thrombose—frequently a catastrophe, since the portion of the popliteal artery which the aneurysm encompasses may include the ostia of all five geniculate arteries and the origin of the anterior tibial and posterior tibial arteries, with the result that no collateral supply can be established in the lower leg. Thrombosis of a popliteal aneurysm therefore, usually results in a severely ischemic limb which frequently cannot survive this arterial insult. Small emboli may break off from the mural clot which frequently lines the walls of the aneurysm and lodge in the smaller arteries of the foot—particularly the digital arteries—with resultant ischemia or gangrene of one or more toes. Rupture of such an aneurysm is uncommon.

Aneurysms in either the superficial or the common femoral artery are given to thrombosis or rupture on occasion. This usually results in a diminution of blood flow to the lower portions of the extremity, causing intermittent claudication rather than death of the limb.

The most common site for an aneurysm is the abdominal aorta, with or without involvement of the iliac arteries. Usually the only physical finding is the presence of the mass itself, since until splitting or beginning rupture of the wall occurs it is asymptomatic. Not infrequently its presence may be unexpectedly discovered by the finding of a rim of calcification on roentgenogram of the abdomen, or by displacement of a ureter at the time of an intravenous pyelogram. Unless careful routine palpation of the abdomen in the course of the general physical examination is carried out, many aneurysms will be overlooked. The danger of abdominal aneurysm is rupture. This is almost invariably fatal. If a patient presents himself with a palpable pulsating aortic mass in the region of the aorta and a recent history of pain in the abdomen and back, removal of the aneurysm and replacement with a suitable graft should be done immediately. Acutely symptomatic aneurysms will, in the majority of cases, kill within days, at the longest two or three weeks.

Decision as to the type of treatment for the patient with an asymptomatic abdominal aneurysm is less obvious. One-third of patients with asymptomatic aneurysms die from rupture within the first year, nearly two-thirds within three years, and only 10 per cent live long enough to die of something else. The surgical mortality of aneurysmectomy and grafts is now less than five per cent. Therefore, we have come to view the new patient with an aneurysm not from the point of view of "shall this patient have his aneurysm removed?" but "is there any reason why this patient's aneurysm should not be removed?" If a patient has a reasonable cardiac reserve and no associated disease which is in itself fatal, resection of the aneurysm and replacement with a graft should be offered and even urged.

OCCLUSIVE (PROLIFERATIVE) DISEASE

The occlusive or proliferative form of arteriosclerosis has generally been

considered a disease of the aged. It is now apparent that this is not true. Lipoid deposits are not infrequent as early as the third decade and a large number of patients with chronic arterial occlusions, particularly of the larger vessels such as the aorta and the iliac arteries, are in their forties and early fifties. In our series the mean age for the appearance of symptomatic occlusive disease is just over 50 years.

The intima becomes the site of cholesterol and lipoid-filled placques, patchy in distribution, upon which varying degrees of thrombosis may occur, either partially or completely occluding the lumen. It is most commonly seen in the larger vessels and fortunately it is usually slowly progressive. The progressive lessening of lumen size permits the establishment of enough collateral pathways in most patients to maintain the life of the limb when the occlusion in the main artery finally becomes complete. Approximately 75 per cent of the volume flow to the limb is lost at the time a major vessel is fully occluded. The remaining 25 per cent is adequate to maintain the life of the limb under all ordinary circumstances, but is not enough blood to supply the demand of muscles under continuous exercise, such as walking. Therefore, a patient's only early symptom is cramp or fatigue in a group of leg muscles upon walking a certain distance. If the walks less than this distance or if he is standing, sitting or lying down, claudication does not occur. The group of muscles most commonly involved are those immediately below the level of occlusion. In other words, a patient with an occlusion of the aorta will manifest hip and/or back claudication.

If the arteriosclerotic process is progressive, collaterals may also become involved as time goes on and the blood supply to the limb may be further lessened. The patient at this time may also complain of paresthesia or of coldness from decreased skin circulation, which may be confused with the paresthesia and coldness of some of the vasospastic diseases. As contrasted with vasospastic disease, in arteriosclerosis obliterans the tendency is for coldness and paresthesia to be persistent, not particularly related to temperature variations and, if the arterial occlusion is in one leg only, coldness and paresthesia is unilateral. Further lessening of blood supply will result in pain in the distal portion of the limb while it is at rest, indicating that the blood supply is below the level required to maintain normal viability of the limb. Further loss of blood supply results in trophic changes, ulceration and finally gangrene.

Edema is not a characteristic of arterial occlusion. If present, it is due to secondary venous or lymphatic involvement or more likely to dependency. A patient with a markedly diminished arterial supply sits the greater portion of the day, which tends to the development of edema of dependency. There are no pulses below the level of the occlusion.

The clinical diagnosis or arteriosclerosis obliterans, then, is made upon the complaint of intermittent claudication and failure to find pulses in the affected limb. It is important to know whether the patient also has diabetes. Involvement of the smaller vessels, frequently only the anterior tibial, posterior tibial and/or peroneal artery is characteristic of

*"Intranasal and sinus infections have been found to disappear more promptly . . . helps to combat the associated nasopharyngitis . . ."**

nasal infections disappear

Furacin® Nasal

brand of nitrofurazone **WITH PHENYLEPHRINE**

NOW IN CONVENIENT PLASTIC ATOMIZER

IN SINUSITIS, RHINITIS AND NASOPHARYNGITIS, FURACIN exerts bactericidal action against the majority of gram-positive and gram-negative organisms *without tissue toxicity*. It prevents malodor and crusting and does not interfere with phagocytosis. With **FURACIN**, there is no slowing of the ciliary beat, no stinging and no irritation. The vasoconstrictor affords rapid symptomatic relief. Prescribe plastic atomizer of 15 cc.

FORMULA: FURACIN 0.02% with phenylephrine•HCl 0.25% in aqueous isotonic solution.

For infections of the eye and ear:

FURACIN OPHTHALMIC Liquid • Ointment **FURACIN EAR** Solution

*Spencer, J. T. in Conn, H. F.: Current Therapy 1954, Philadelphia, W. B. Saunders Co., 1954, p. 130.

EATON LABORATORIES NORWICH, NEW YORK

diabetes. This can result in ischemia of the foot, even to the point of gangrene, in the presence of a popliteal pulse. Also characteristic of diabetes is marked atheromatous involvement throughout the length of the femoral artery, even without occlusion.

Once the clinical diagnosis of arteriosclerosis obliterans is made it is of interest to know the precise details of the disease both in the area of occlusion and elsewhere. This is needful in evaluating the patient's existing condition and in roughly predicting his future. This detail can be determined only by arteriography. Through the use of an aortogram and/or femoral arteriograms, the location of the occlusion causing the presenting complaint can be determined and the effectiveness of functioning collaterals, the quality of artery above and below the point of occlusion, and the patient's candidacy for direct surgical intervention may be evaluated.

Although there are varying degrees of atheromatous involvement found, a high percentage of arterial occlusions are local in nature. These may be so localized that on arteriography the remaining portions of the arterial tree appear normal. Of particular interest is whether the occlusion is segmental or non-segmental. If the artery is occluded throughout its entire length, nothing can be done in the nature of direct surgical repair. If the occlusion is local and the vessel patent below the point of occlusion, the possibility of by-passing or replacing the occluded area with an arterial graft may be considered.

The re-establishment of blood flow by the use of a suitable arterial graft, homologous or artificial, has a continued success rate of 80 per cent in this present series of 600 grafts followed for more than four years. The continued success rate for the larger vessels is higher than that of the smaller. Aortic grafts remain open in 90 per cent of the cases, femoral grafts in 70 per cent. With present techniques it is almost always possible to establish a successful graft at the time of operation. In a certain percentage of patients, more and more atheromatous changes occur in the vessel below the distal end of the graft as time goes on. If occlusions at these lower levels cut off the outflow of the graft, stagnation can occur within the graft and clotting may follow. This is rarely catastrophic, but usually reverts the patient to his preoperative condition.

If the occlusive pattern of the arteries is such that it does not seem reasonable to attempt an arterial graft, or if the patient has other serious disease (particularly cerebral or coronary arteriosclerosis) other measures must be employed. These are few and not particularly effective. The patient should be encouraged to walk just to the point of claudication. We know of no better way to promote the development of collaterals than through the stimulus of excercise just to the point of fatigue. Elevation of the head of the bed six inches tends to increase, by gravity, blood flow to the lower extremities during the night when flow is apt to be slowest. A sudden thrombosis-in-situ occurring on top of an arterial narrowing most commonly occurs during the assumption of an abnormal position or while in bed.

Sympathectomy may be of help, particularly in the more severely ischemic limb. Its effect is almost entirely limited to skin circulation. As

it does not help muscle circulation it is not indicated in the treatment of intermittent claudication.

We do not believe that any of the vasodilating drugs are indicated. Although one of these may increase the flow of blood to the skin, it will act most on the least involved vessels and may divert blood from the more severely involved limb to fill the dilated vessels in other parts of the body. As a temporary stopgap in a severely ischemic leg, the intra-arterial use of vasodilators may be employed for short periods of time. This at least localizes their effect to the area where it is needed.

The patient should be taught to take meticulous care of the feet to prevent the development of ulcerations.

The present status of ingested fats and cholesterol in the development or progression of arteriosclerosis is undecided.

CONCLUSION

Direct surgical treatment of both the degenerative and the proliferative forms of arteriosclerosis is now available for most of the major vessels. As surgical techniques have progressed, we have gradually assumed the position that such a direct surgical attack upon the problem is the treatment of choice and we generally employ it in those patients in whom such treatment is applicable unless otherwise contraindicated.◀

The Problem of Glaucoma

Glaucoma is a whole complex of diseases of the eye with elevated intraocular pressure as its main feature. Glaucoma not controlled leads to blindness.

Precipitating factors of an acute episode may be nervous shock, dilation of the pupil during dark adaptation, medication for mydriasis or surgical shock.

The patient with the red painful eye of acute narrow-angle (congestive) glaucoma seeks immediate relief. The physician must differentiate acute glaucoma from acute iritis, with or without secondary glaucoma, and acute conjunctivitis before giving any treatment.

Narrow-angle glaucoma is now considered a surgical problem, though medical means are used to abort an acute attack prior to surgery and as a means of maintenance in the aged and infirm.

Wide-angle glaucoma is primarily a medical problem, and medical therapy is continued as long as the disease is controlled. This may involve the use of miotic drops many times each day for the remainder of the patient's life. When an intra-ocular pressure level consistent with no further field loss cannot be attained or is lost, some operative procedure may have to be performed. Not a few of these eyes respond poorly to surgical as well as medical therapy.

The diagnosis of early primary glaucoma is often difficult. A person with elevated tension needs careful ophthalmic studies, sometimes over a period of months, before an unequivocal diagnosis of glaucoma can be made or excluded.

Bushard, W. J., *Minnesota Med.*, 41:457-461,1958.

ORIGINAL ARTICLE

Peptic Ulcer and Other Gastrointestinal Disorders: Treatment With A New Antiphobic-Spasmolytic-Antacid Combination

Even patients who were given medication for periods of over a year obtained relief of symptoms without untoward side effects

LOUIS A. ROSENBLUM, M.D., F.A.C.P., *Forest Hills, New York*

In a previous article, studies were reported with a new antiphobic drug, 1-piperidine-ethanol benzilate hydrochloride.* This agent proved effective in the management of anxiety-tension states, and useful in patients whose anxiety neuroses resulted in somatic complaints referable to the gastrointestinal tract or the heart.[1] It was also found that patients who had experienced loss of libido, drowsiness, weakness and depression with various tranquilizers noted no interference with mental acuity and related functions on this therapy. Those patients who were receiving medication for peptic ulcer or anginal states observed markedly enhanced benefit when the drug was added to the treatment regimen. This study was undertaken to determine the value of combined therapy, incorporating the new drug, a spasmolytic agent and antacids,† in

*Sycotrol, Reed & Carnrick, Jersey City 6, New Jersey.

1. Rosenblum, L. A., A New Antiphobic Agent (1-piperidine-ethanol Benzilate Hydrochloride, *Sycotrol*, in Management of Anxiety Neuroses with Visceral Symptomatology. To be published.

†*Modutrol*®, contains 1-piperidine-ethanol benzilate hydrochloride, 2 mg., scopolamine methylnitrate, 1 mg., magnesium hydroxide, 200 mg., aluminum hydroxide, 200 mg. Reed & Carnrick, Jersey City 6, New Jersey.

the management of peptic ulcers and other gastrointestinal disorders.

It has been previously observed that both the ulcer and the general well-being of the patient can be adversely affected by dietary restrictions and by onerous dietary schedules.[2] Since psychogenic factors affect the development and course of peptic ulcer, it is important to avoid imposing any added insults to the ego. The diagnosis of peptic ulcer already carries a threat to the security of the patient. To add to his fears a constant reminder of this threat, in the form of restricted diet, frequent feedings and medication could jeopardize his chances for a favorable response.

An extensive study of the successful use of unlimited diet in the treatment of peptic ulcer has been reported in which large amounts of an antacid-antispasmodic preparation had to be taken every two hours during the daytime and also during the night, over a minimum period of four to six months.[3]

Another study, in which psychotherapy was used as an adjunct to a routine hospital dietary regimen, demonstrated the value of the combined approach.[4] These observations, together with the unrestricted diet and *Sycotrol* suggested the use of combined therapy of peptic ulcer and other gastrointestinal disorders. The designation of 1-piperidine-ethanol benzilate hydrochloride as an antiphobic agent is based on studies which indicate that it tends to abolish fears and resulting neurotic responses engendered by anxiety and stress.[1] Discrimination and ego functions are not depressed and they may even be enhanced. In these respects, the drug differs from tranquilizers having sedative, antihallucinatory, deconfusing or muscle-relaxing action.

2. Rosenblum, L. A., *Am. J. Gastroenterol.*, 28: 507,1957.
3. Marshall, E. A., *Ohio M.J.*, 49:1085,1953.
4. Selesnick, S., *Gastroenterology*, 14:364,1950.

PLAN OF STUDY

Fifty-three patients were treated with the antiphobic-spasmolytic-antacid combination. Of these, 35 had x-ray evidence of peptic ulcer. There were 33 duodenal ulcers, one gastric and one marginal ulcer. Eighteen patients had other gastrointestinal disorders, including cholecystitis, spastic colon, gastric neurasthenia and carcinoma of the stomach.

All previous therapy was discontinued, and therapy with the new combination was instituted on a schedule of one tablet four times daily. As the study progressed it was determined that some patients derived added benefit when the dosage was increased to two tablets four times a day. In three cases, failure to achieve an adequate response suggested further increases in dosage. It was found that increasing the dose above eight tablets a day produced no added benefit.

RESULTS

Of the 35 patients with confirmed peptic ulcer, 31 experienced complete relief, one had partial relief and three did not respond to therapy. Thirty of the 33 patients with duodenal ulcer had complete relief and one had partial relief. The patient with marginal ulcer had prompt relief, with no recurrences while on therapy. The gastric ulcer case showed no benefit and went on to surgery, where three gastric ulcers were revealed. This patient had failed to respond to all previous medical measures.

In one patient with duodenal ulcer

TABLE 1

RESULTS OF TREATMENT WITH AN ANTIPHOBIC-SPASMOLYTIC-ANTACID COMBINATION

DIAGNOSIS	NUMBER OF CASES	RELIEF		
		COMPLETE	MODERATE	NONE
Peptic Ulcer				
duodenal	33	30	1	2
marginal	1	1		
gastric	1			1
Gastritis and gastric neurasthenia	13	9		4
Spastic colitis	1		1	
Cholecystitis	2		2	
Posthepatitic distress	1			1
Gastric Carcinoma	1			1
TOTALS	53	40	4	9

accompanied by vomiting, cessation of therapy was followed by recurrence of the ulcer symptoms. Resumption of therapy promptly relieved his condition.

Of 18 patients with other gastrointestinal disorders, 13 were diagnosed as having gastritis or gastric neurasthenia, manifested by epigastric distress, nausea, vomiting, anorexia or heartburn without evidence of organic disease. Of these patients, nine experienced relief and four did not. Moderate relief was experienced by one patient with spastic colitis. Two cases of distress associated with cholecystitis had considerable relief. Failures resulted in one patient with epigastric distress following infectious hepatitis, and in another with carcinoma of the stomach. The results are summarized in Table 1.

The patients were maintained on the medication for periods ranging from one month to over a year. None of the patients showed subjective, objective or laboratory evidence of untoward effects on continued treatment with the medication.

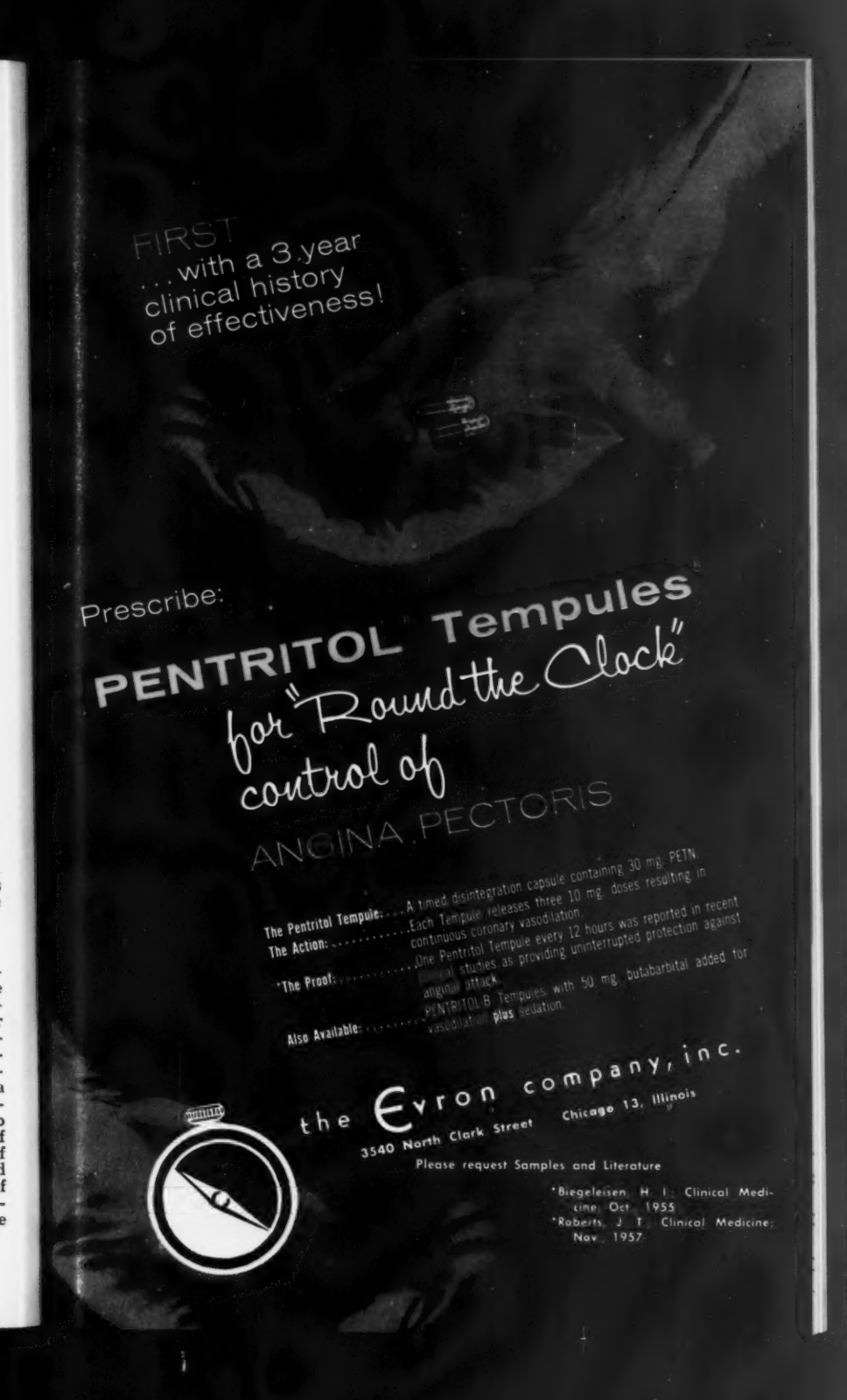
REPRESENTATIVE CASE REPORTS

CASE 1

A man of 61 was first seen with a history of nocturnal abdominal distress, heartburn, vomiting and weight loss of 15 pounds over a period of four months. There was a history of syncope associated with tarry stools six years previously, and a diagnosis of bleeding ulcer was made at that time. X-ray films made at the initial visit revealed pyloric obstruction, with a large crater in the duodenal bulb and considerable five-hour retention of barium. The patient was started on the medication and a high protein diet. He took one tablet four times a day, after meals and at bedtime. X-ray examination a month later revealed complete relief of the pyloric obstruction and disappearance of the niche. The patient has continued on therapy with no recurrence of symptoms.

CASE 2

A woman of 50 gave a history of epigastric pain, nausea and vomiting for the preceding three months. X-ray examination showed evidence of acute ulcer crater and partial pyloric obstruction. On treatment there was prompt relief of pain referable to the ulcer, and marked diminution in the frequency of vomiting. Within a month, all vomiting had ceased. X-ray examination two months later revealed no ulcer crater and marked amelioration of the pyloric obstruction. At the time of the first x-ray examination, there had been considerable five-hour retention of barium. The second x-ray examination revealed no residue in the stomach at the end of one hour.


FIRST
. . . with a 3 year
clinical history
of effectiveness!
Prescribe:
PENTRITOL Tempules
for "Round the Clock"
control of
ANGINA PECTORIS
The Pentritol Tempule: . . . A timed disintegration capsule containing 30 mg. PETN.
The Action: . . . . . Each Tempule releases three 10 mg. doses resulting in continuous coronary vasodilation.
*The Proof: . . . . . One Pentritol Tempule every 12 hours was reported in recent clinical studies as providing uninterrupted protection against anginal attack.
Also Available: . . . . . PENTRITOL-B Tempules with 50 mg. butabarbital added for vasodilation plus sedation.
the Evron company, inc.
3540 North Clark Street Chicago 13, Illinois
Please request Samples and Literature
*Biegeleisen, H. I.: Clinical Medicine, Oct., 1955
*Roberts, J. T.: Clinical Medicine; Nov., 1957

Case 3

A woman of 38 gave a 16-year history of epigastric pain and bleeding. Sedation gave inconstant relief, but good relief was obtained with antacid preparations. A G.I. series showed definite ulcer deformity of the duodenal bulb, with active ulcer niche on the posterior wall and lesser curvature of cap. On treatment with one tablet four times daily, relief of symptoms occurred within 24 hours. A repeat G.I. series four months later showed chronic ulcer deformity of the cap as previously noted, but disappearance of the ulcer niche. Clinically, the patient has been well and has no ulcer symptoms or other gastrointestinal complaints.

Case 4

A man of 47 was seen after a one-week history of postprandial epigastric distress, relieved by food and alkalis. There was considerable belching. A G.I. series revealed a large ulcer niche on the lesser curvature of the prepyloric area. He was placed on medication, one tablet four times daily, with unlimited diet, and had relief of all symptoms within 36 hours. There was no complaint on continuation of this regimen of medication and unlimited diet. Eight months later another G.I. series showed no evidence of the previously noted ulcer, which apparently had healed completely.

DISCUSSION

The use of a medication combining effective antiphobic, spasmolytic and antacid therapy represents a comprehensive approach to disorders which have both functional and organic components. Many of the patients treated with this medication had previously failed to show significant response to diet, Sippy regimen or other standard therapeutic measures.

A significant feature of therapy was the observation that where it was successful, there was prompt relief of nausea and vomiting, and of epigastric distress, previously unrelieved by other therapy.

Among the failures in this series of patients it is appropriate to note that success could not be expected in the patient with carcinoma or post-hepatitic symptomatology. In a large proportion of the remaining unsuccessfully treated cases, it is considered that there was present a psychoneurosis of long standing or a severe agitational component which probably required intensive psychiatric or psychopharmacodynamic therapy.

SUMMARY

1. A total of 53 patients with gastrointestinal disturbances were treated with a preparation containing a new antiphobic agent in combination with a spasmolytic and antacid substances.

2. The results were especially gratifying in patients with peptic ulcer. Relief was obtained in cases of spastic colitis, cholecystitis, and in a majority of cases of gastritis and gastric neurasthenia.

3. No untoward effects were noted on continued treatment with this medication, although some patients have been treated for more than a year.◀

Expectation of Life and Mortality from Cancer Among British Radiologists

Modern safety measures afford the radiologist of today a longer life span than his predecessor enjoyed

W. M. COURT BROWN, M.D., *Edinburgh, Scotland,* and R. DOLL, M.D., *London, England*

In a report on "The Biological Effects of Atomic Radiation" by the United States National Academy of Sciences (1956) it was stated that the average age at death of U.S.A. radiologists was five years less than the average age at death of U.S.A. physicians having no known professional contact with radiation, and it was inferred that exposure to radiation received under occupational conditions would result in a reduction in the expectation of life.

Dublin and Spiegelman (1948) reported that the mortality of U.S.A. specialists in radiology was less than that for all physicians—that is, 90% —but slightly more than that for all specialists (which was 78% of the rate for all physicians). Only 95 deaths were, however, recorded among the radiologists, and the differences are not large enough to be significant.

PRESENT REPORT FOR BRITAIN

The present report gives the causes of death among a similar group of British radiologists during the 60 year period, 1897 to 1956. The investigation had two objects: to see whether there was evidence for a decrease in

the expectation of life as the result of a non-specific aging effect, and to examine the mortality of British radiologists from cancer.

It is only recently that active steps have been taken to record the amounts of exposure received by the staffs of radiological departments. Available evidence suggests that exposure, under modern conditions, is almost always well below the weekly maximum permissible dose of 0.3 *r* (Godfrey, Osborn, and Templeton, 1957). However, during its formative years medical radiology was often practised without any protective measures. It was common practice for a radiologist to test the condition of his x-ray tube by the density of the shadows of his hand bones cast on a fluorescent screen. Warren (1956) studied the average age at death of American radiologists and claimed that the finding of a reduction of about five years in comparison with physicians not practising radiology was evidence of an aging effect of radiation. The test used by Warren—a comparison of their average ages—suggested that the groups were comparable when in fact, as Seltser and Sartwell (1958) have shown, there is a difference in the age distribution of the groups which is sufficient to account for the whole of the reported difference in the average age at death. It must be concluded, therefore, that Warren's data are not evidence of a reduction in longevity consequent upon occupational exposure to radiation.

The mortality data for British radiologists, published by the Registrar-General for England and Wales (1958), relate to small numbers. It may be noted, however, that only eight deaths were recorded among radiologists aged 20-64 years between 1949 and 1953, when the number expected from the rate for all occupied and retired men was 12. The standardized mortality ratio of 70% compares with ratios of 89% for all doctors and 98% for all men in social class I.

INTERPRETATION

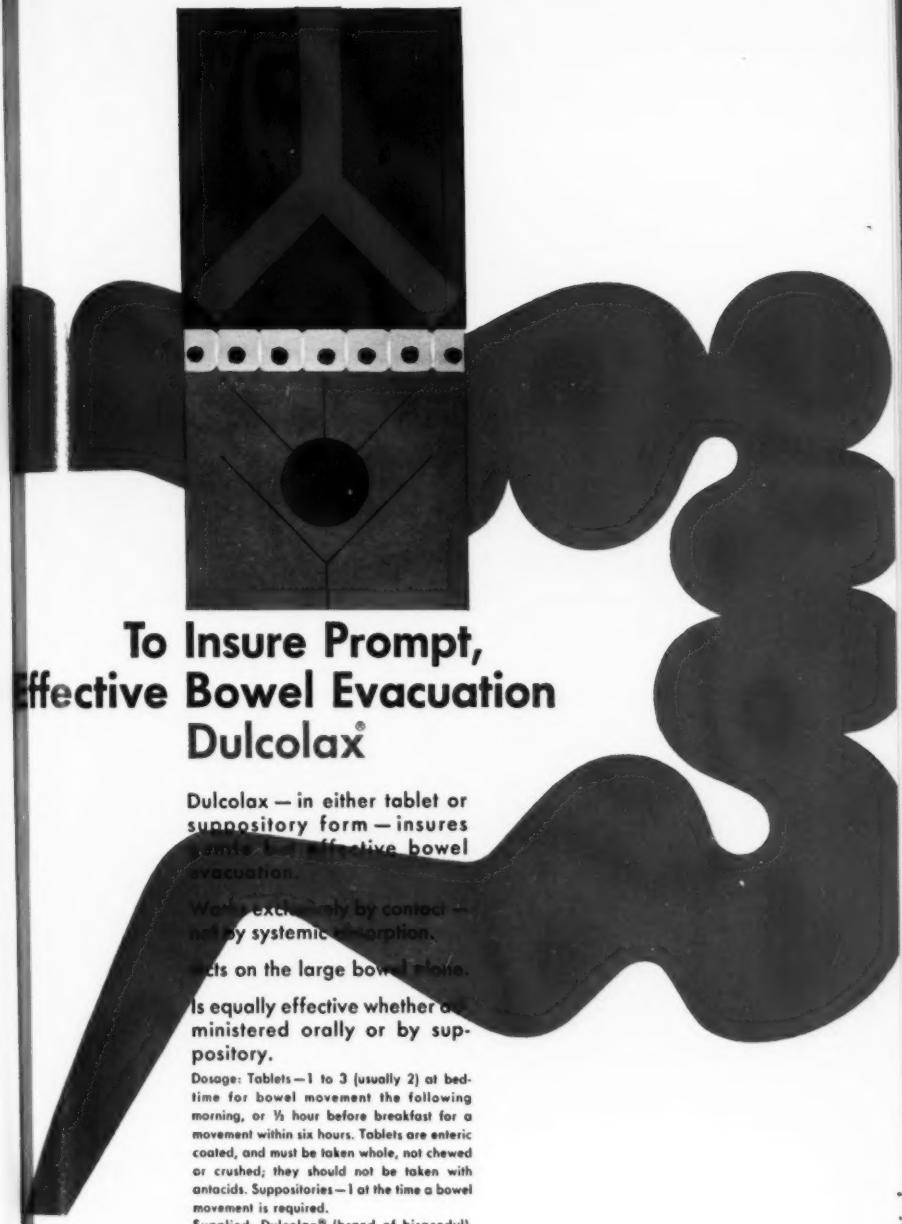
The most reasonable interpretation of the results of the present study is that the expectation of life of British radiologists is similar to that of other men of comparable status, and has not been substantially altered by their occupational exposure to radiation. This negative finding is all the more striking when the analysis is confined to those radiologists entering the population before 1921. This group of men contains the pioneer radiologists, and an analysis of the deaths from skin cancer provides good evidence that these men suffered excessive exposure, at least to their limbs.

The total cancer mortality is close to that which would have occurred among men of similar social class, but it is slightly more than would have been expected from comparison with the cancer mortality of doctors—that is between 61 and 71.

It is clear that with the provision of, and adherence to, adequate protective measures, the personnel of medical radiological departments have not run any substantial risk of a reduction in the expectation of life from a non-specific aging effect, or an increased mortality from the common forms of cancer.

CONCLUSIONS

The findings suggest that, so long as care is taken to introduce and observe the recommended measures of protection, the long-term somatic risks of radiation will be very small.



To Insure Prompt, Effective Bowel Evacuation

Dulcolax®

Dulcolax — in either tablet or suppository form — insures prompt and effective bowel evacuation.

Works exclusively by contact — not by systemic absorption.

Acts on the large bowel alone.

Is equally effective whether administered orally or by suppository.

Dosage: Tablets — 1 to 3 (usually 2) at bedtime for bowel movement the following morning, or ½ hour before breakfast for a movement within six hours. Tablets are enteric coated, and must be taken whole, not chewed or crushed; they should not be taken with antacids. Suppositories — 1 at the time a bowel movement is required.

Supplied: Dulcolax® (brand of bisacodyl). Yellow enteric-coated tablets of 5 mg. in boxes of 6 and bottles of 100. Suppositories of 10 mg. in boxes of 6. Under license from C. H. Boehringer Sohn, Ingelheim.

Contact Laxative

Geigy

A significant excess of cancer deaths was found among those men entering the practice of radiology before 1921, the year in which the first committee to advise on protection was formed. The excess was confined to tumors of the skin and pancreas and (possibly) leukemia.

No excess mortality from cancer was found in those men entering radiology subsequent to 1920; but it is as yet too early to be sure that the cancer hazard has been eliminated.

Brit. M.J., 2:181-187,1958.

Puerperal Mental Illness

Puerperal mental illness is not a psychiatric entity since the patterns of illness are the same as those in the non-puerperal state. The prognosis in puerperal illnesses is excellent, irrespective of the diagnostic classification. It is not dangerous to give electroplexy controlled by thiopentone and suxamethonium in the first month after confinement, provided there is no evidence of thrombophlebitis. In any subsequent pregnancy there is a one-in-five chance of recurrence. There is no psychiatric basis for advising a patient to avoid having another pregnancy for at least two years after her illness. Subsequent puerperal or non-puerperal illnesses tend to be of the same diagnostic type as the original puerperal illness, and the response to treatment is similar. The only definite etiological factor is the genetic make-up, but infection may be of some importance.

Some of these conclusions are in direct contradiction to statements in other surveys, the major disagreement being on the question of prognosis in those patients showing schizophrenic symptoms. Puerperal schizophrenia has been called a particularly malignant illness, with only one of 19 patients in one series recovering sufficiently to live outside a hospital. It has been stated that in schizophrenia the most that can be reasonably expected is stabilization at a level of invalidism necessitating some special care at home. But nearly half of the patients in this group become more or less permanent mental-hospital patients, notwithstanding shock therapy. These are but samples of the general pessimism.

Of 75 patients who suffered from puerperal mental illness and were followed up for periods varying from four months to 10½ years, 65 are now in normal health and only two have residual psychotic symptoms. None has become a chronic hospital invalid. All 15 schizophrenic patients are fully recovered.

Electroplexy controlled by relaxants was given uneventfully to 12 patients within one month of confinement. It is considered to be safe if there is no evidence of thrombophlebitis. The recurrence rate of puerperal mental illness in subsequent pregnancies was one in five. Relapse was not more frequent when the next birth occurred within two years of the illness.

Martin, M. E., *Brit. M.J.*, 2:773-777,1958.

Diagnosis and Treatment of Facial Pain

The etiology and diagnosis of many types of facial pain, and the various methods of treatment are discussed

GEORGE W. SMITH, M.D., *Augusta, Georgia*

Man, aware of the vulnerability of the cephalic area to injury or harm, is quickly and greatly concerned about any painful sensation that centers about the face and head.

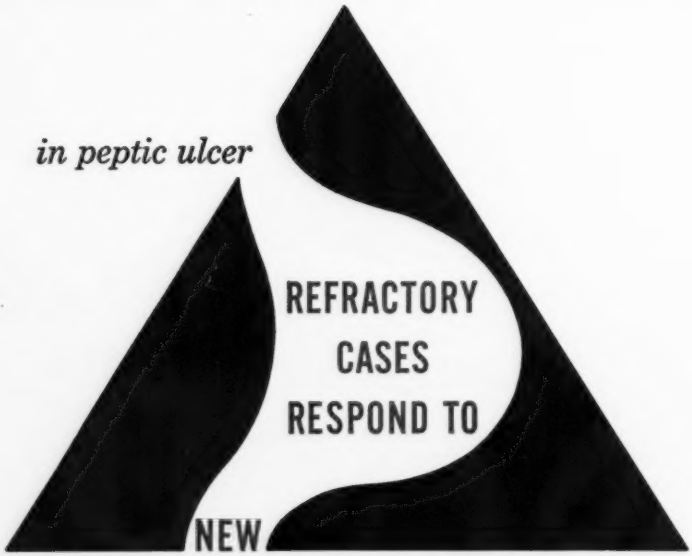
IN CERTAIN CONDITIONS AND AREAS

The pains of dental acute pulpitis are of short duration, throbbing, altered by thermal changes within the mouth, and increased with the recumbent position. Tumors or infected cysts of the mandible may cause early pain, and late malocclusion. Temporal-mandibular arthritic states may produce pain which can be excluded by simple test maneuvers of chewing and manipulation.

Neuralgia associated with paranasal lesions is generally well localized and combined with acute or chronic infection. When the sphenoid or ethmoid sinuses are involved, the aching is usually constant and dull, behind and between the eyes. That of frontal or maxillary sinuses is directly over and referable to the sinuses involved. Rarely are the pains of the shooting type that would be confused with the tic pain.

Occasionally lancinating pains in the ear and lower jaw are produced by an elongated styloid process. This is associated with a deep soreness in the throat and dysphagia. Such pain can be reproduced by an examining finger pressed against the styloid process, from within the tonsillar fossa.

in peptic ulcer



DARICON* *tablets*

OXYPHENCYCLIMINE HYDROCHLORIDE

POTENT ANTICHOLINERGIC ACTION

curbs secretion when excessive
normalizes motility when overactive

Activity appears to be restricted to the desired site of action. Predictable therapeutic response in refractory cases.

Potency and Prolonged Duration of Action
10 mg. b.i.d. Average Dose • Supplied as:
10 mg. white, scored tablets

References: 1. Finkelstein, Murray: Journal of Pharmacology and Experimental Therapeutics, in press. 2. Winkelstein, Asher: Paper in preparation.

*Trademark

Pfizer *Science for the world's well-being*

PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.,
Brooklyn 6, New York

Another cause of facial pain is the nasopharyngeal tumor, either carcinoma or lymphoepithelioma, which starts high in the lateral pharyngeal fossa, grows beneath the mucosa, extends along the base of the skull, and involves first the maxillary division of the fifth cranial nerve and then the mandibular branch, as well as the ninth and tenth cranial nerves further along the base. These tumors are very insidious in their growth; they are difficult to locate diagnostically, and they frequently are not apparent until they have destroyed the base of the skull at the foramens through which the nerves emerge. Tumors of this type are radio-sensitive, and the pain can be relieved by irradiation and shrinkage of the tumor mass, or by section of the appropriate nerve.

Tumors that involve primarily the gasserian ganglion and branches of the fifth nerve, cause pain usually more constant than and lacking the paroxysmal character of tic pain, more continual, limited to the distribution of the fifth cranial nerve, which comes to be replaced by hypesthesia.

Acoustic neurinomas or cerebellopontine angle meningiomas frequently will grow so large as to press on the posterior rootlets of the fifth or ninth cranial nerves and produce tic douloureux of ninth nerve. The usual neighborhood signs of corneal anesthesia, facial weakness, deafness, tinnitus, vertigo, or palatal weakness help in the etiological diagnosis. Surgical removal of these masses will promptly relieve such pains.

Aneurysms of the circle of Willis, may be such size and location as to press on branches, ganglion, or rootlets of the fifth cranial nerve and simulate tic douloureux.

REFERRED PAINS MAY CONFUSE DIAGNOSIS

Three types of referred pain of importance are pain caused by acute glaucoma or corneal ulceration, pain of coronary thrombosis or angina pectoris extending to the lower jaw and teeth, and suboccipital and lateral head pain secondary to nerve root pressure by cervical disk protrusions.

THE DOULOUREUX

The symptoms are so classic that one can usually make the diagnosis by history alone, or by observing a patient in an acute attack. Tic douloureux is generally seen in patients advanced in years. An initial facial pain may occur at an early age, and then remit for years, before the pain is so constant or frequent as to force medical attention. Of the patients who have had tic douloureux and disseminated sclerosis combined, the pain has had its onset at a younger age. Women predominate in the ratio of three to two. The site is most frequently in the mandibular division, next most often in the maxillary distribution, eight per cent in the area of the opthalmic branch. Initial attacks are short, later of longer duration. The vast majority have tooth extractions before they see a physician.

MOVEMENT PRECIPITATES

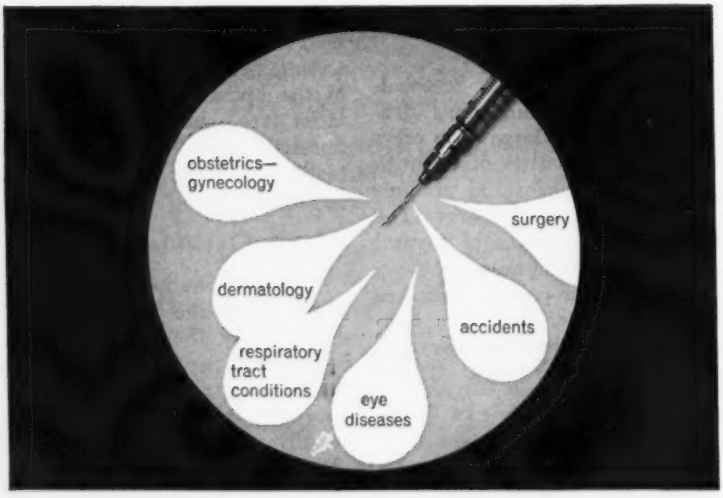
The precipitating factor is often movement of the facial muscles, talking, opening the mouth, mastication or a movement of the tongue against the buccal surface. Deep pressure seldom will precipitate the pain; it is usually a light touch, even of a light garment to the face in undressing. Paroxysms occur mainly during the waking period.

CHYMAR® AQUEOUS is indicated as:

a therapeutic agent—Chymar abolishes inflammation, hastens absorption of edema and blood extravasates, relieves pain, and restores impaired local blood and lymph circulation. # a prophylactic agent—Chymar, when given early, suppresses the development of the inflammatory tissue reaction and edema. # an adjunctive agent—Chymar supplements antibiotics in local infections and is useful in inflammatory dermatoses. # Supplied: 5 cc. multiple dose vials. Each ml. contains 5,000 Armour Units of chymotrypsin. Also available—Chymar in Oil.

ARMOUR

PREFERRED FOR SYSTEMIC ANTI-INFLAMMATORY ACTION



ARMOUR PHARMACEUTICAL COMPANY • KANKAKEE, ILLINOIS / *a leader in biochemical research*

The pain is usually unilateral; only seven per cent of the cases are bilateral. It is unusual for a patient with bilateral tic douloureux to experience the pain on both sides simultaneously. The majority occur initially in the fall or the spring, and the exacerbations usually occur in these seasons. The duration of the pain-free periods progressively decreases. Spontaneous cures apparently do not occur.

A patient will state that the pain lasts for 15 to 20 minutes. Usually he means a series of explosive electric shocks.

TREATMENT

Except in those cases in which the cause can be found and removed, surgery is directed toward interruption of the painful pathways at one of three principal points:

1. The peripheral branches of the gasserian ganglion.

2. The ganglion itself, its posterior sensory root in the middle, or the posterior cranial fossa.

3. The descending nucleus and tract of the fifth nerve in the lower medulla oblongata.

Such interruption may be done by alcohol or surgical section of the nerve root or tract. Chemical means of interrupting or destroying the peripheral branches or ganglion relieves the tic pain for months, may be repeated, and is particularly suited for patients who are poor surgical risks.

DISADVANTAGES OF ALCOHOL INJECTION METHOD

The drawbacks to this technique include the temporary nature of the relief, the anesthesia and possible paresthesias, possible dissemination of the destructive agent to other cranial nerves or tracts resulting in paresis or palsy. The procedure is usually done under local anesthesia and is painful.

Many have successfully injected the ganglion or used needle electrode directed through the foramen ovale; more recently boiling water has been injected into the ganglion itself directly by needle. Complete destruction of the ganglion will result in total anesthesia to the face, including the ophthalmic division which destroys the defensive corneal reflex.

The standard surgical technique is section of the sensory root between the pons and the gasserian ganglion by means of an extradural approach through the middle fossa.

Relief by analgesics is far from satisfactory. The pain is not altered greatly by aspirin or by opiates.

Stilbamidine intravenously will give relief, although producing bilateral facial self-limited formication and itching. Patients may not obtain immediate relief with the use of the drug, but relief may occur anywhere between the first and the fourteenth week. It is necessary to give seven or eight booster injections of the drug every two years, depending on the amount given in the initial course of treatment.

Patients have been treated with the oral form of stilbamidine isethionate with good results and without the production of paresthesias to the face.

More time is needed for observation of the series of patients that have been treated with stilbamidine and for calculating the dosage necessary for relief but avoiding the troubling paresthesias.◀

J.A.M.A., 166:857-866,1958.

Use of Drugs in Shock Accompanying Myocardial Infarction

In giving sympathomimetic drugs for shock after myocardial infarction, evaluation of the cardiovascular system is mandatory

ARTHUR SELZER, M.D., and DAVID A. RYTAND, M.D.,
San Francisco, California

Death from myocardial infarction is consequent to shock, arrhythmia or thromboembolic phenomena. Shock is responsible for 80 per cent of the mortality. Elimination of this triad of complications would greatly improve the prognosis of a single attack. With the present usage of anticoagulants and antiarrhythmic drugs, the treatment of shock remains the major problem. Shock may be either neurogenic or cardiogenic. The former involves failure of the peripheral circulatory regulation system, the latter implies the incapability of the heart to maintain adequate output. Neurogenic shock may be of the nature of reflex vasomotor collapse producing peripheral vascular dilatation. A decreased cardiac output follows with accompanying reduction in coronary flow, and with the existing myocardial damage cardiac failure results. On the other hand, severe myocardial infarction may cause disruption in the cardiac muscle function, producing primary cardiogenic shock.

Indication for therapy is a fall in the blood pressure sufficient to endanger life. Non-specific measures such as placing the patient in Trendelenburg's position, the administra-

tion of oxygen and the use of morphine, should first be tried. In instances of arrhythmia, every effort should be made to produce a normal cardiac rhythm. In cases of atrial flutter or fibrillation, digitalis is the drug of choice, but it is contraindicated in ventricular tachycardia. Procainamide is effective for ventricular arrhythmias. When response to nonspecific medication is not prompt, specific drug therapy should be employed.

Sympathomimetic drugs or "pressor amines" are used to increase the systemic peripheral arteriolar resistance, but they tend to increase myocardial irritability and induce cardiac failure. However, since the introduction of levarterenol *(Levophed)* this problem has been minimized. The primary pharmacological action of this drug is on the peripheral blood vessels with a lesser effect on the heart itself. More recently mephentermine *(Wyamine)*, methoxamine *(Vasoxyl)*, and metaraminol *(Aramine)* are also being used.

The administration of all sympathomimetic drugs for shock after myocardial infarction constitutes a major therapeutic hazard. Because of their action on the damaged myocardium they must be given with caution, and with a careful evaluation of the patient's cardiovascular system.◀

J.A.M.A., 168:762-767,1958.

Antibiotics in Acute Tonsillitis and Acute Otitis Media

During the three years 1955-7, all cases of acute tonsillitis (more accurately acute infection of the fauces, because in some the tonsils had been removed) and acute otitis media occurring in a South London general practice were recorded, observed, and followed up. There were 482 attacks of acute tonsillitis affecting 405 individuals, and 552 attacks of acute otitis media in 422 individuals.

Penicillin was used only on definite indications, the course followed carefully, and the staff was always prepared to use the antibiotic where necessary. It was required in 25 per cent of all attacks of acute tonsillitis —19 per cent in the non-streptococcal group and 30 per cent in those showing hemolytic streptococci in throat swabs. In acute otitis media the antibiotic was needed in 22 per cent of all the attacks—in 15 per cent with a painful eardrum and in 34 per cent of those with ear discharges.

No real complications occurred in either group, and on follow-up three months or more later only three children were found to be slightly deaf with abnormal drums, no chronic discharge and other drums normal. Sixty-five patients had more than one attack of tonsillitis, 85 more than one of acute otitis media.

It requires courage to withhold drugs that have been used routinely with excellent results, but once the initial decision is made to wait and see for a day or two before using them, it is astounding how many cases of acute tonsillitis and acute otitis media will recover spontaneously.

Fry, J., *Brit. M.J.*, 2:883-886,1958.

Radical Perineal Prostatectomy for Early Cancer

When early prostatic cancer is detected by rectal digital examination, complete surgical extirpation is the treatment of choice

HUGH J. JEWETT, M.D., *Baltimore, Maryland*

A large segment of the medical profession has a growing interest in the feasibility of eradication of prostatic cancer by radical surgery. Reasons for this interest include increased prevalence of the disease, rising death rate, failure of long-term endocrine therapy, availability of the retropubic procedure, and favorable results of radical perineal prostatectomy in certain cases.

Postmortem examination statistics indicate that prostatic cancer is present in at least 14 per cent of men over 50 years of age. It is said that its incidence increased 38 per cent between 1938 and 1948.

The published results of radical perineal prostatectomy leave little doubt of its value, although its applicability is somewhat limited. Ten per cent of patients with cancer of the prostate examined over a period of 50 years have been subjected to this procedure. During the last 10 years, 19 per cent were suitable. To be a candidate, the malignant process must be grossly confined to the prostate and the seminal vesicles must be normal to palpation throughout. The membranous urethra and bladder neck, x-rays of the spine, pelvis and upper femurs, and the level of the serum acid phosphate should be normal. The patient otherwise should have a life expectancy of 10 years. For these reasons, few patients over 70 years old are suitable.

The earliest stage of prostatic cancer recognizable by digital rectal palpation is a small nodule, usually quite firm, in the periphery of the gland. Only five per cent of patients with prostatic cancer are seen so early. This is because a rectal examination is rarely made unless the patient is having specific symptoms and is no longer a suitable subject for radical prostatectomy. In the Army where routine annual rectal examinations are mandatory in men over 40, early and operable prostatic cancer has been detected in 54.5 per cent.

Surgical removal of prostate gland, bladder neck and seminal vesicles with their anterior and posterior fascial coverings in one intact specimen by way of the perineum has been done. This operation, with modifications is used today, and 401 have been performed, half of these in the last 10 years.

Up to 1944, 127 patients with histologically identified cancer survived the operation and have been followed. Of these, 48 had advanced cancer with grossly palpable involvement of the fibrous capsule of the gland or the seminal vesicles. These patients were operated upon before the era of endocrine therapy, which began in 1941, in the hope that some might be salvaged. Six of the 48 (12.5%) lived 10 years, and only two received endocrine assistance later. There were 79 cases in which the preoperative rectal examination showed no palpable evidence of extension beyond the prostate. Thirty-seven per cent of these patients lived 10 years without evidence of recurrence.

Microscopic examination of all these surgical specimens showed that the seminal vesicles were involved in 39 cases. Of the remaining 40 cases of proved cancer, there was no microscopic evidence of extension beyond the prostate. Twenty-one (52%) lived 10 years or longer without recurrence or metastasis, and without endocrine treatment. The surgical specimens removed from the 21 patients who lived 10 years or longer without cancer and those from the seven who died with cancer have been carefully scrutinized. Of the 21 patients who lived, perineural lymphatic involvement was seen in 12 cases. In nine of these the tumor was considered Grade 1, and in three, Grade 2. Of the seven patients who died with cancer, the perineural lymphatics were found involved in four of the five that were graded.

The average age of patients who lived 10 years or more without recurrence or metastasis was 62.8 years, the youngest in this group was 54 at the time of operation. Of the 13 patients with tumors of Grade 1, the average age was 61, of those who had tumors of Grade 2 it was 65.7.

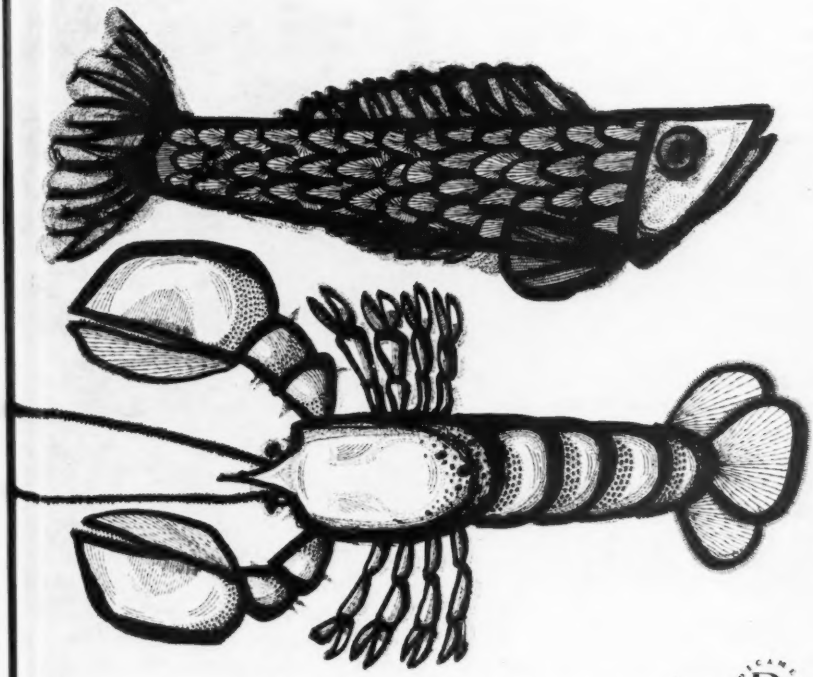
There were nine patients (23%) who lived 10½ to 17 years after operation whose seminal vesicles, though grossly normal, were found by microscopic study to be involved. Five patients with Grade 1 tumors and one with a Grade 3 tumor have had no recurrence or metastasis. One patient with a Grade 1 tumor was apparently well for 12 years but died with cancer 16 years after operation. Another with a Grade 2 tumor was clinically free of cancer 11 years after operation, but died with cancer 17 years after operation. Perineural lymphatics were involved in both cases. One additional patient with an ungraded tumor was clinically well for nine years but died with cancer two years later. Therefore nine of 39 patients

when seafood triggers an allergic attack

BENADRYL®

ANTIHISTAMINIC-ANTISPASMODIC

GIVES FAST, COMPREHENSIVE RELIEF— In food sensitivity, the antihistaminic action of BENADRYL rapidly blocks the allergic mechanism that produces gastrointestinal, cutaneous, and respiratory symptoms. At the same time, its antispasmodic effect provides relief from nausea and vomiting. Such twofold action makes BENADRYL equally useful in patients with many other allergic disders • BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis) is available in a variety of forms—cludin Kapseals,® 50 mg. each; Kapseals, 50 mg. with ephedrine sulfate, 25 mg.; Capsules, 25 mg. each; Elixir, mg. r 4 cc.; and for delayed action, Emplets,® 50 mg. each. For parenteral therapy, BENADRYL Hydrochloride eri-Via s,® 10 mg. per cc.; and new Ampoules, 50 mg. per cc.



PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN

with microscopic, but not gross, involvement of the seminal vesicles lived 10 years or longer, and six of these 39 patients (15%) have remained free of cancer without endocrine assistance.

It is difficult to obtain data permitting an accurate comparison of the results of radical perineal prostatectomy with those after palliative treatment of proved cancer in similar stages of development. Endocrine therapy was substituted in 31 patients who were believed to be suitable subjects for the radical operation. Twenty-two per cent of these patients were alive at the end of 10 years, still with cancer. The radical operation in suitable cases apparently provides a survival rate superior to that afforded by hormones. The questions that remain to be answered concern the risk of operation and the possibility of incontinence and other complications. Impotence usually follows effective endocrine therapy as well as radical prostatectomy, and so may be disregarded. Permanent impotence resulting from the endocrine treatment of a patient whose prostatic nodule was not cancer is an avoidable peril.

Of 211 prostatic nodules clinically compatible with cancer which were studied microscopically, 108 were benign and 103 were malignant. A surgeon who castrates, or renders impotent by estrogen, a patient with a benign area of induration in the prostate gland may be subject to a lawsuit. It is impossible to distinguish a localized benign nodule in the prostate from one that is malignant by palpation alone. If the x-ray shows that the nodule is not a calculus, the diagnosis will depend on accurate biopsy. This should be practically 100 per cent accurate when properly taken through a perineal approach. If the tissue is benign, the patient is out of the hospital in a few days with peace of mind, without sacrificing his sexual function, and without submitting to endocrine treatment for the rest of his life.

The mortality and morbidity following radical perineal prostatectomy have steadily declined through the years. In the last 200 cases at one hospital there were six deaths, but there has been no post-operative death on the private service in more than 13 years. Of the last 100 cases, 65 patients were discharged from the hospital between 11 and 19 days after operation.

In these last 100 cases there have been no disabling consequences. Temporary stricture of moderate degree developed at the site of the vesicourethral anastomosis in 15 per cent. Thrombophlebitis of the veins of one leg occurred in six cases. The rectum was injured in four cases, but complete healing followed in all. There have been no fistulas. Perfect urinary control was established in a short time in 84 to 95 per cent of the cases, depending on the type of closure used. With the posterior figure-of-eight mattress suture there was no permanent incontinence in 30 cases.

CONCLUSIONS

Cure of prostatic cancer can be accomplished only by early, complete surgical extirpation. This is feasible in men who have a life expectancy of 10 years, and who show no evidence of metastasis or of gross extension of the cancer beyond the prostate gland. In about half of these cases the tumor will be microscopically

localized to the prostate. Fifty per cent of these patients will survive 10 years free of cancer after radical perineal prostatectomy, as compared with the expected survivorship of 53 per cent for men of the same age group in the general population. At the present time these criteria for operability are satisfied in only a small percentage of cases. This percentage could be greatly increased if a presumptive diagnosis of the disease were made more often in the nodule stage by an annual rectal examination by the family physician.◀

Bull. New York Acad. Med., 34:26-33,1958.

Tumors of the Shoulder Girdle

Of 111 tumors of the clavicle and scapula diagnosed during a 50 year period, 80% were primary tumors and the remainder included bone cysts, metastatic lesions, tumors of the soft tissues, 2 chondromas, 2 mesenchymomas, a fibroma, an osteoid osteoma and 3 unclassified lesions.

Primary tumors of bone were found to be more than twice as frequent in the scapula. Determination of the nature of the lesions indicated that biopsy study was necessary. The most frequent tumors in this group were the benign osteochondromas, chondrosarcomas, Ewing's sarcomas and myelomas.

Pratt, G. F., et al., *Surg., Gynec. & Obst.*, 106:538,

Unnecessary Radiation Exposure from Radium

Some common-sense precautions will minimize the hazards attendant upon the handling of therapeutic radiation

JAN LIEBEN, M.D., *Harrisburg, Pennsylvania*

Recent reports of the National Academy of Sciences on the genetic effects of radiation discussed the possibilities of higher incidence of leukemia in radiologists, and suggests a higher incidence of congenital malformation in the offspring of radiologists. There is no excuse for avoidable radiation exposure. Radiation from isotopes is fairly well controlled. Radium is frequently handled negligently. In some instances, avoidable radiation is received by doctors, other hospital personnel, and patients. Often those exposed to radiation are unaware of the hazards and their exposure is not properly controlled.

There are three important factors which can be used to minimize exposure to any radiation:

1. Time: The less time spent in the immediate vicinity of a radiation source, the less total radiation will be received.

2. Distance: The further away from a radiation source, the less radiation is received. A small increase in distance can greatly reduce exposure.

3. Shielding: The more material and the denser the material between the radiation source and the surroundings, the less radiation is received; 1.2 cm. of thickness of lead will reduce the quantity of radiation by half.

Radium should be stored in a properly posted room in a lead safe de-

signed for the appropriate storage of the quantity of radium.

Radium applicators or needle threading should be prepared only by persons familiar with the principles of radiation and its dangers. Proper forceps and tongs should be used at all times. These instruments are necessary since radium-filtered with 0.5 mm. of platinum emits 8.4 *r* per hour per *mc.* at 1 cm. from the source. All cleaning of applicators should be done behind a lead protective barrier.

Radium should not be removed from the storage safe any earlier than is absolutely necessary. It should only be transported in the lead-lined carrier, and it should not be left in the operating room, since even with a 2.5 cm. lead thickness carrying container, the maximum permissible dose can easily be obtained in a short time.

CARE OF THE PATIENT

The chart of the patient receiving radium should be conspicuously marked, and personnel in contact with the patient should have at least a basic knowledge of radiation hazards. The patient should preferably be housed in a separate room, and if that is not possible, no bed of another patient should be closer than 10 feet. Adjoining beds to patients undergoing radiation treatment should, in some cases, not be occupied by patients of child-bearing age. Due attention should be given to the extra radiation involved in personal services to the patients such as bathing, changing clothes, etc.

If a special nurse is employed, her chair should be at least 10 feet from the patient, preferably out of the room.

The maximum visiting time for any patient should depend on the amount of radium used in the patient and on the physical facilities. It should be determined by the radiation safety officer.

The radiation storage area, patients under treatment, and the operating room should be monitored from time to time to determine the amount of radiation to which personnel might become exposed.

On rare occasions, radium salts and its daughter products may escape from the sealed radium needle or container and may give rise to contamination with alpha particles which cannot be measured with ordinary beta or gamma survey meters. Alpha contamination may create an inhalation or ingestion hazard. An alternative is a wipe test. In view of the complicated nature of these tests, they should be undertaken only by specially trained personnel, such as health physicists, and done at regular intervals.

Radiation protection from radium is a simple matter and observance of a few precautions, proper equipment, and common sense can keep exposure from this source at a minimum.◄

Pennsylvania M.J., 61:215-217,1958.

Management of Insomnia and Restlessness

In a given case of insomnia or restlessness, the drug of choice depends upon the individual patient's need

JOHN C. KRANTZ, Jr., M.D., *Baltimore, Maryland*

The first synthetic hypnotic drug, chloral hydrate, was synthesized by Liebig in 1832. Its hypnotic properties were not discovered until 1869. After nine decades of use and recent keen competition, cogent evidence is not available to show that chloral hydrate suffers by comparison. Paraldehyde, extensively used in the late 19th century, has declined in use owing to its disagreeable odor and its tendency to irritate the stomach. Sulfonal and trional were capriciously absorbed and hence lacked dependability. In addition their use occasionally produced blood dyscrasias.

THE BARBITURATES

Our daily consumption of phenobarbital is estimated at one ton. Those compounds which contain long side chains, such as secobarbital and pentobarbital, are rapid-acting and their hypnosis is of short duration. Those which contain short chains of carbon atoms such as the ethyl group, and closed chains such as the phenyl group, are slow-acting barbiturates hence their sedative action extends over longer periods.

Barbiturates, when employed in their usual dosage schedule, do not produce physical dependence. When administered in massive doses repeatedly, and suddenly withdrawn, true withdrawal symptoms resembling grand mal seizures occur, indicative of physical dependence. Since many

suicides have been committed via barbiturates, and since they produce addiction, a new series of nonbarbiturate hypnotics has been made available.

NEWER NONBARBITURATE HYPNOTICS

Within the past five years various products have come into general use as hypnotics, each of which appears to be less dependable than the barbiturates, and to cause more side effects. Their effective hypnotic doses are larger than those of the barbiturates. They offer an alternate sedative for patients who become tolerant to or are adversely affected by barbiturates.

The barbiturates remain the drugs of choice in the management of insomnia.

CAUSES OF RESTLESSNESS

Restlessness may well be the result of organic disease, *e.g.*, hyperthyroidism and hypertension. It may herald the origin of serious organic disease, *e.g.*, carcinoma of lungs or other organs—to be considered when an otherwise poised and well integrated person complains of restlessness.

Restlessness occurs frequently in adolescence and in middle life from the gap between ambition and achievement.

PSYCHOLOGICAL MEASURES

The patient must be made to realize that the zest for life is not in the goal but in the race, not in the achievement but in the effort. One should not neglect, especially for the older patient, to remind him of the hope for a better future life. Creative work proves his adequacy and magnifies his ego, and hope provides the necessary solace of a future.

Such simple psychotherapy has serious limitations for many patients. For most, drug therapy is necessary. Phenobarbital has served well for a quarter of a century in relieving restlessness, tension and the psychic components of hypertension and peptic ulcer. Its disadvantage is the drowsiness which it causes in many patients.

The tranquilizing or ataractic drugs produce calm, imperturbability, and tranquility without sedation.

MEPROBAMATE

Meprobamate's action in psychoneuroses and anxiety states may be due to its capacity to selectively block interneuronal circuits and to reduce exaggerated reflexes. The relaxation of skeletal muscle is an additional action.

CLINICAL USE OF MEPROBAMATE

As a tranquilizer with a minimum of side effects, meprobamate has met a clinical need in anxiety states and many organic diseases with a tension component. The drug relaxes skeletal muscles, reduces body movement, induces imperturbability, diminishes tension and often induces sleep. Drowsiness, the only consistent untoward side effect, may be controlled by dosage reduction or the simultaneous use of Dexedrine.

We know very little about the cause of persistent restlessness. One questions the wisdom of using drugs for tranquilization of persons whose drive and ambition, coupled with the associated tension, are the mainspring of their existence. Their peace of mind is not in tranquility, but in achievement. The physician has now in his hands a new group of agents, the ataractic or tranquilizing drugs, powerful for good or ill according to the discrimination with which they are used.◀

Connecticut M.J., 22:608-610,1958.

FINANCE

The Doctor Builds His Estate

Prepared for the readers of Clinical Medicine by the Research Department of the leading investment banking and brokerage firm of Bache & Co., 36 Wall Street, New York 5, New York

---

These monthly articles point out one method by which the professional man may overcome the particular handicap imposed upon him by our tax structure, which taxes the bulk of his income at normal income tax rates, as opposed to the capital gains tax avenue open to many business men. One solution to this problem is the systematic investment of a portion of current income each year in securities. Such a program, which should include many different types of investments such as bonds, preferred stock, common shares and shares of mutual funds, will have as its objectives growth of principal together with reasonable income. We again emphasize that even the most complete series of articles of this type cannot take the place of consultation with a representative of a reputable brokerage firm.

Americans are likely to spend a good deal more money around their homes in 1959 then they have in recent years. With the economy emerging from the recession, the employment picture brightening and consumer confidence growing, 1959 shapes up as a banner year for many of the industries supplying consumer products of many types, particularly home furnishings.

There are two essentials for a big year in home furnishings—consumers must have the money to spend and the will to spend it. The latest figures suggest that both these attributes now exist. Personal income has completely recovered from the effects of the recession and pushed ahead to new

highs. In the third quarter, for example, personal income of Americans amounted to an annual rate of $357.5 billion annually, up from $349.8 billion in the second quarter, a recession low of $347.3 billion in the first three months of 1958 and a total of $347.9 billion for all of 1957. Disposable personal income has scored similar gains.

We also seem to be growing more willing to part with these dollars. Personal consumption expenditures rebounded in the second quarter and hit a new high of $291.5 billion annually in the third quarter. Although outlays on durable goods are still well below earlier highs, they are improving, and spending on non-durables reached a new peak in the third quarter.

The outlook for this year is for more of the same. The recent University of Michigan Consumer Opinion Survey showed a marked surge in consumer optimism and confidence since midsummer with substantially increased numbers believing they were better off financially, that business was better and that business would continue to improve. The survey also disclosed an improvement in the number planning to buy household goods. Some forecasters, moreover, look for consumer spending to spurt to a whopping $307 billion in 1959, up from an estimated $290 billion in 1958.

Not all companies will benefit from this surge in spending and some stocks have already discounted this rise, of course. Three of the firms we believe to be best situated to take advantage of these developments are Bigelow Sanford Carpet, Drexel Furniture Co., and Motorola, Inc.

BIGELOW SANFORD CARPET COMPANY

Bigelow Sanford Carpet Company is one of the three largest manufacturers of carpets and rugs in the U.S. The company participates in practically all of the varied types of carpet lines, and is strong in tufted carpets which are growing in popularity. The company's past record has been quite erratic due to Bigelow's position as one of the higher-cost producers in the industry. However, a long-term program of plant relocation and improvement has now been substantially completed and these economies should be reflected this year.

The company produces a line widely varied as to weave, quality and price. Bigelow produces Axminster, Wilton and Velvet, made chiefly in wool, as well as tufted carpets of cotton and a growing assortment of synthetic fibers. The company's products are distributed through some 4500 retail stores throughout the country with company sales offices in 20 cities. A less expensive Sanford line, formerly distributed to wholesale accounts, is now being sold exclusively to retailers.

In the past decade sales have varied between a low of $67.2 million in 1952 and a high of $97.7 million in 1950. Profits have swung even more widely, but generally followed a down trend over this period, declining from a peak of $6,305,000 or $6.60 a share in 1948 to only $361,244 or 21¢ a share in 1957. Deficits were recorded in 1951, 1952 and 1954.

One of the main causes of this poor earnings record was the high cost of the company's operations, which were largely concentrated in Connecticut. In the Fall of 1955, the company started a program of moving as many manufacturing operations as possible to the South, where the combination of new facilities and lower labor cost

new for cough

tastes good

the straws just symbolize the good flavor! And DIMETANE EXPECTORANT for cough is as effective as it is delicious. FORMULA: each 5 cc. (1 teaspoonful) contains: DIMETANE (Parabromdylamine Maleate) 2.0 mg.; Glyceryl Guaiacolate 100.0 mg.; Phenylephrine Hydrochloride, USP 5.0 mg.; Phenylpropanolamine Hydrochloride, NNR 5.0 mg.; Alcohol 3.5% in a good-tasting aromatic base.

works better

combines the unsurpassed antihistamine Dimetane with the clinically proven expectorant glyceryl guaiacolate (which increases R.T.F. almost 200%) and two recognized decongestants. When additional cough suppressant action is indicated, prescribe DIMETANE EXPECTORANT-DC, which provides the basic formula with dihydrocodeinone bitartrate 1.8 mg. per 5 cc. (exempt narcotic).

Dimetane® Expectorant Robins
Dimetane® Expectorant-DC

(WITH DIHYDROCODEINONE BITARTRATE 1.8 MG./5CC.)

promised to greatly reduce costs. This program is now approaching fruition.

Late in 1955, the company began to build a new Velvet weaving plant at Landrum, South Carolina. Manufacturing was begun in mid-1956 at this plant, and reached expected levels in 1958. The company began construction of a new yarn mill at Calhoun Falls, South Carolina, late in 1956. This plant began operations in mid-1957 and reached normal operations by late 1958. The company spent approximately $13.1 million on the Southern plant locations, and is now producing all of its tufted and Velvet carpets and all of its long yarn requirements at its Southern locations. These manufacturing activities constitute more than 80 per cent of the company's total manufacturing effort in the carpet division of the business.

The transition from a high cost to a low cost producer is beneficial to Bigelow not only from the standpoint of more economical operations but from the point of view of greatly improving the company's competitive position. Moreover, in addition to relocating its plants in the South, the company has strengthened its sales organization.

Of perhaps even greater importance is the fact that the carpet industry appears finally to be approaching a period of more stable product prices. Small price increases were put into effect recently by several leading firms in the industry in contrast to conditions prevailing early in 1958.

While several of the new plants have reached capacity operations so recently that it is difficult to pinpoint the economies achieved, we believe that Bigelow-Sanford could earn as much as $2.00 to $3.00 if 1957 sales levels of about $75 million were achieved again. We believe that this sales level could be attained either in 1959 or in 1960. Above these levels, moreover, earnings could increase importantly inasmuch as a large part of the company's expenses are fixed.

Of course, the poor record of 1958 must be considered. The company recorded substantial deficits in each of the first three quarters and operated at a loss of $2.22 a share for the first nine months of the year, compared with a profit of 22¢ a share in the comparable 1957 months. In the fourth quarter of 1958, the company probably showed a small profit, although still remaining far in the red for the year. Earnings were hurt not only by the lag in sales but due to substantial charge-offs caused by relocation expenses, the employee training program and start-up expenses at the new plants.

The company's financial statement for year-end 1958 should show a ratio of current assets to current liabilities of over 4 to 1, and the company's current bank loans are nominal. There is a large amount of debt outstanding, which was incurred in the expansion program, and this debt is high in relation to equity capital at market values. However, now that the expansion program is substantially completed, no trouble is anticipated in handling the debt and it is steadily being retired.

The company is alert to new promotional possibilities. Bigelow-Sanford is exploring the increasingly important volume of business conducted by supply houses that serve professional decorators. Two deep-pile wool carpets were developed in 1957 for distribution through these houses. Moreover, the number of items in the Sanford line has been increased to

BIGELOW-SANFORD CARPET COMPANY

Price	$14	(Capitalization 12/31/57)	
Dividend	—	Long-term debt	$18,000,000
Yield	—	$100 Par Pfd. stock	33,659 shs.
1958 Price Range	15⅜-6⅞	Common stock	992,631 shs.
Traded	N.Y.S.E.		

provide it with a product-variety to satisfy all major requirements of the average carpet retailer. In its advertising promotional activities, Bigelow-Sanford is placing greater emphasis on the sales support of its retail dealers, and the distribution of in-store and window displays has been expanded with the goal of intensifying retail exposure of the company's products.

The company has two other small divisions. The Hartford Rayon Company makes rayon staple for Bigelow-Sanford as well as for sale to other carpet producers. Hartford Rayon has extended the development and sales activities for its heavy-denier rayon fibers into the areas of a variety of home furnishings and household fabrics. The early response from manufacturers of drapery, upholstery materials, bedspreads and similar fabrics indicates to the company that the fiber offers both style and practical values. This new program is related to both white fibers and Kolorbon, a solution dyed fiber with colors incorporated during the manufacturing process.

The Carpet Special Products Division markets special materials for Karpet-Kare, an on-location carpet cleaning method, to the company's franchised professional carpet cleaners. Early in 1958, the company introduced an improved carpet cleaning detergent with a moth-proofing additive, as well as a shampoo designed for use on cotton and rayon carpets and upholstery.

With good earning power on the way, a return to a dividend paying status seems a possibility for late 1959 or early 1960. While there is obviously considerable risk attached to this situation, we believe that a turn-around is near, and that the level of Bigelow-Sanford shares does not fully reflect the much improved outlook.

DREXEL FURNITURE COMPANY

Drexel Furniture, one of the largest manufacturers of quality bedroom, living room and dining room furniture, appears to be heading for a record year in 1959. Preliminary sales projections for fiscal year 1959 are in the neighborhood of $42 to $45 million, an increase of 25 per cent or more over 1958 sales. Earnings are also expected to expand materially next year and should climb to more than $4.00 a share.

Sales for the fiscal year ended November 30, 1958 are estimated to have been about the same as the $34 million reported in fiscal 1959. In January of 1957 Drexel acquired control of Heritage Furniture, Inc. and Morgantown Furniture. Gross sales last year, and of course, this year, reflect the above acquisitions. In 1956 Drexel alone had sales of $28.9 million. A *pro-forma* sales computation for all three companies in 1956 is difficult to determine since all of the companies had different fiscal years. However, a guess for *pro-forma* 1956 sales would be in the neighborhood of

$39 million. Thus in actuality sales have been disappointing in the past two years. The obvious reasons for the disappointing sales were the low level of housing starts and the recession.

However, new orders are now coming in at a rapid rate and the company is quite confident for the coming year. Orders, which have been dull, perked up in August and rose sharply in recent months, closing the year on a strong note. While a recent price increase that went into effect December 1 might have prompted some advance buying, management feels that the strong underlying sales trend is continuing.

Sales for Drexel alone next year are budgeted at about $32 million, which if achieved will be well above the $24 to $25 million of the past two years and will also exceed the 1956 record of $28.9 million. The other two lines—Heritage and Morgantown—are also expected to have good years and exceed the $10 million sales volume of the past two years.

Looking forward, not only is the short-term outlook favorable but the long-term also holds considerable promise. The postwar trend of a steady upgrading to better quality merchandise and the higher standard of living shows no signs of stopping or even slowing down. This trend increased sales of Drexel from $8.8 million in 1946 to $34 million last year. Continued growth is anticipated as more and more people enter Drexel's price range—the upper middle income level.

To capitalize on this potential the company acquired Heritage and Morgantown to give itself a more complete line, especially in upholstered furniture. Also, the sales force has been strengthened and reorganized. Not only has additional personnel been added, but more salesmen have been converted to exclusive representatives from multiple-company agents.

Earnings for the fiscal year ended November 30, 1958, are estimated at $2.40 to $2.50 a share as compared with $2.87 in 1957 and $4.52 in 1956. However, earnings for this fiscal year are expected to expand, with profit margins widening due to the more efficient utilization of a higher sales volume, and price increases that went into effect last month. Earnings this coming year should climb to more than $4.00 a share.

Drexel Furniture and its subsidiaries manufacture case goods furniture, tables and upholstered furniture, principally of bedroom, dining room and living room types. The combined company is alleged to be among the five largest producers of household wooden and wooden frame upholstered furniture.

The Drexel Division manufactures dining room, bedroom and living room furniture of traditional and contemporary design and style. It also makes dining room chairs and bedroom chairs, living room and occasional tables and other furniture pieces to supplement and correlate these.

The Heritage Division produces upholstered furniture and wooden living room furniture, including cocktail and step and book and lamp tables, consoles and chests. The Morgantown Division manufactures dining room and bedroom suites sold in the middle to upper-middle price brackets. Drexel plants, located at Morgantown (four), Marion (three) and Drexel, N. C., and the veneer and panel plant at Kingstree, S. C., have a total floor

IF URINARY INFECTION PROVES CHRONIC:

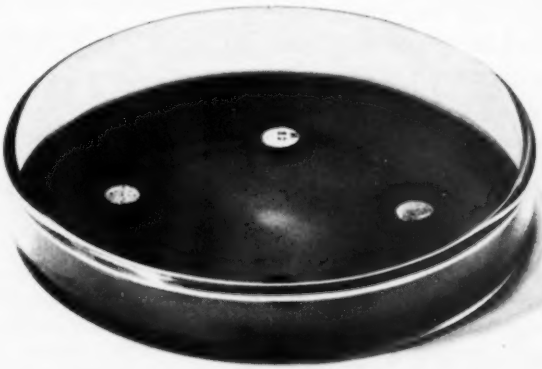
Mandelamine is antibacterial, yet is not an antibiotic! Effective in many urinary tract infections resistant to antibiotics and sulfonamides, won't sensitize patients, no resistant strains develop. Mandelamine obviates need for alkalis or forcing of fluids, and it is excellent for long term therapy. Cost is low.

MANDELAMINE®

(BRAND OF METHENAMINE MANDELATE)

WARNER-CHILCOTT

MORRIS PLAINS, N. J.



Drexel Furniture Co.			
Price	24½	(Capitalization 11/30/57)	
Dividend	$1.40	Long term debt	$514,000
Yield	5.7%	Common stock	635,641 shs.
Traded	O.T.C.		

area of 1.4 million square feet. Heritage has a 188,000 square foot main upholstery plant at High Point and a 100,000 square foot table plant at Mocksville, both in North Carolina. Morgantown plant facilities at Morgantown, N. C., contain 224,000 square feet. Showrooms are at Chicago, New York and High Point.

The financial condition of the company is consistently strong. As of November 30, 1957, current assets totaled $15.4 million as compared with current liabilities of $3.0 million. Cash alone totaled $3.3 million. Dividends have been reported in every year since 1937. There are no restrictions as to payments. The current annual dividend rate is $1.40 and is considered secure. Furthermore, if earnings projections are realized, an increase in the dividend is a distinct possibility, in our opinion.

The shares, selling at 10 times 1958 earnings and six times estimated 1959 earnings, appear undervalued. We would recommend the stock for capital gains and growth possibilities.

MOTOROLA, INCORPORATED

Motorola, one of the strongest, better managed and more profitable electronics companies, has been relatively neglected during the recent surge in electronics issues generally. The company in the period ahead will benefit by the important changes which have been made to place it in the fast growing and more profitable electronics areas. Accordingly, at little more than 18 times earnings of a depressed year, the shares appear attractive for long term capital gains, particularly when it seems likely that earnings in the foreseeable future will rise to a new and more advanced plateau.

Motorola, one of the pioneer companies in the electronics industry, has established an enviable reputation in the consumer products area. The company produces automobile radios, home and portable radios, television sets and phonographs. Motorola's consumer products account for 50 per cent to 55 per cent of total sales. The company is one of the leading makers of a full line of television sets and, earlier this year, produced what was claimed to be the world's first truly portable television set, a fully transistorized battery operated 14 inch receiver, entirely cordless. Motorola hopes to market it at a practical price by 1960.

Approximately 75 per cent of all car radios installed after original purchase are Motorola products, and radios for original equipment are sold to Ford, Chrysler and American Motors.

The company's earnings were adversely affected by intensely competitive conditions in the television markets from 1955 through 1957. However, now that the sharp recession in consumer durable goods is about to be reversed, this area should contribute to improved earnings and the recovery in the consumer goods area should also be reflected in increased

corticosteroid
erapy of
llergic diseases

thma hay fever
ergic rhinitis
ergic dermatitis
g reactions

Decadron*

DEXAMETHASONE

to treat more patients more effectively

a new order of magnitude in therapeutic effectiveness
a new order of magnitude in margin of safety

ent and good-to-excellent results are re-
t with DECADRON in nearly all of 362
ts with various allergic disorders, includ-
number of cases who had failed to respond
r corticosteroids. **No major reactions** were
ved in these extensive clinical studies even
four months of continuous therapy—
RON produced no peptic ulcer, no dia-
no significant hypertension, no sodium
on, no potassium depletion, no edema, no
rable psychic reactions, and no unusual
side effects. Less than five per cent of
ts experienced minor reactions, none of
prevented continuing administration of
RON.

ver, several investigators report that side apy such as gastric intolerance, peripheral edema, headache, vertigo, muscle weakness, ecchymoses, flushing, sweating, moon facies, hypertension, hirsutism and acne **often disappeared during therapy with DECADRON.**

†Analysis of clinical reports.

Dosage: One 0.75 mg. tablet of DECADRON will replace one 4 mg. tablet of methylprednisolone or triamcinolone, one 5 mg. tablet of prednisone or prednisolone, one 20 mg. tablet of hydrocortisone, or one 25 mg. tablet of cortisone.

Detailed information on dosage and precautions is available to physicians on request.

Supplied: As 0.75 and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100.

MERCK SHARP & DOHME

automobile radio sales as well as higher television set sales.

Motorola's TV set sales should be particularly good since the company has brought out a new line of sets which is meeting with excellent market response. Moreover, with about 50 million TV sets in use, the replacement market could soon become significant. The company has such confidence in its product that it is the only manufacturer that extends the warranty period to one full year.

In two-way mobile communications Motorola is the largest factor, accounting for a larger share of the market than all of its competitors combined. This area is growing faster than the electronics industry as a whole and is also more profitable. In 1957, for example, the purchase by the state of Ohio of 1300 two-way mobile units and associated station equipment for the Highway Department represented the largest single order for commercial mobile units during peacetime.

The fastest growing part of the electronics business is semi-conductors, which includes transistors. Motorola has been very active with development of a line of semi-conductors, and is mass-producing transistors. Moreover, this year the already large production facilities will be doubled. Due to the company's important stake in automobile and other radios, the position of the company is particularly strong since it has a captive market for transistors. Motorola has great faith in the future of transistors. A transistorized television set uses about 31 transistors as of today. If the economics of production could be solved within the next 10 years so as to make transistorization of television sets practical, the volume, assuming 5 million sets were then transistorized, would be 155 million transistors for this one application alone. Industry production came to only about 30 million transistors in 1957.

Military electronics also have been of significance to the company, and account for about 20 per cent of sales. With the continued rise in military electronics, particularly for missiles, advanced communications and radar systems, Motorola is in an enviable position to show substantially higher military sales.

From 1955 through 1957, earnings of Motorola, in common with most other manufacturers of similar electronics items, were adversely affected by the intensely competitive conditions in the television market, with production falling in a period when inventories were high. Despite these difficulties, in each of these years Motorola was able to report net income in excess of $4 per share.

During 1958, however, the company was hard hit by the recession which was particularly severe for the manufacturers of consumer durables. Motorola felt the effect not only as a producer of television sets, but especially as a dominant producer of automobile radios, which naturally slumped sharply in the face of lower car sales. These hard hit areas in turn affected the company's transistor production which was geared to a higher level of sales. On top of these difficulties, the defense cutbacks in 1957 showed up in Motorola's results in early 1958, with curtailed military operations sharply reducing net income.

For the first nine months of 1958, earnings dipped to $1.66 a share from $2.76 a share in the same period of 1957, and net sales declined to $137.2

cold 'miseries'

stuffed and running noses, fever, headache, muscular discomfort

vic e prompt relief with this logical formulation:

TRIAMINIC for more complete, more effective relief from nasal and paranasal congestion because of systemic transport to *all* respiratory membranes—without drawbacks of topical therapy*

plus A-P-C for classical control of headache, fever and muscular discomforts

plus VITAMIN C to help raise resistance to respiratory ills and help hasten recovery

and BUFFERED with aluminum hydroxide gel for superior gastric tolerance

*Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

h Triaminicin Tablet provides:

INIC®	50 mg.	Phenacetin . . . . . (2½ gr.)	150 mg.
henylpropanolamine HCl . .	25 mg.;	Caffeine . . . . . (½ gr.)	30 mg.
heniramine maleate	12.5 mg.;	Ascorbic acid	50 mg.
yrilamine maleate	12.5 mg.)	Aluminum hydroxide gel (dried) . .	180 mg.
salicylic acid . . . . (3½ gr.)	225 mg.		

Dosage: 1 Triaminicin tablet every 3 to 4 hours.

Triaminicin®

ntains **TRIAMINIC** *to* STOP *running noses* *and open stuffed noses orally*

-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada

MOTOROLA, INCORPORATED

Price	53
Dividend	$1.50
Yield	2.6%
1958 Price Range	60¼-35
Traded	N.Y.S.E.

Capitalization (12/31/57)

Long term debt	$19,054,756
Common stock	1,935,131 shs.

million from $166 million. For the full year 1958, earnings probably dipped to about $3 a share from the $4.04 reported in 1957, and sales probably slumped to approximately $210 million from $226 million in 1957.

However, we look for substantial improvement this year. Military electronics should show marked earnings gains and contribute significantly to net income. As a result of these improvements, we anticipate that earnings should recover substantially and rise as much as 50 per cent to $4.50 per share.

The company operates plants at Chicago, Franklin Park and Quincy, Illinois; Arcade, New York, and Phoenix, Arizona. Research laboratories are at Phoenix, Arizona and Riverside, California. Motorola has approximately 12,000 employees.

Motorola has established an enviable reputation as a producer of consumer products. These products are still important to the company's overall sales picture and have also served as an important base from which to jump into the newer and more promising electronics areas. Over the longer term, we expect Motorola to show substantial growth. The company has one of the most extensive engineering and research organizations in the entire electronics industry. The financial condition is strong and the manufacturing facilities are among the most efficient in the industry. The shares appear attractive for longer term capital appreciation.◄

Decadron *(Merck Sharp & Dohme)*

Anti-inflammatory steroid. Available in two strengths, each tablet contains 0.75 or 0.5 mg. of dexamethasone. *Indications:* Whenever anti-inflammatory steroid action is required. *Dosage:* To be determined by the physician. *Supplied:* Either strength, in bottles of 100 tablets.

Ritonic *(Ciba)*

Contains a mild stimulant, steroids and vitamins. *Indications:* To improve appetite, vitality and mood in geriatric patients. *Dosage:* Average dose is one capsule in mid-morning and one capsule in mid-afternoon. *Supplied:* In bottles containing 100 capsules.

Sinutab *(Warner-Chilcott)*

A new specific for management of sinus headache. Exerts analgesic, decongestant, antihistaminic and tranquilizing action. *Indications:* To abort pain, decongest, relieve pressure and relax the patient with sinus headache. *Dosage:* Adults, two tablets every four hours. Prophylactically, one tablet every four hours. Children six to 12 years, one-half the adult dose. *Supplied:* In bottles containing 30 tablets.

Diabinese *(Pfizer)*

Chlorpropamide, oral hypoglycemic agent. *Indications:* For the treatment of selected diabetic patients. Useful in the control of the mild to moderately severe adult stable diabetic, and occasionally with decreased insulin dosage in the management of adult diabetics of the "brittle" type. *Dosage:* As determined by the physician. *Supplied:* 100 mg. tablets in bottles of 100; 250 mg. tablets in bottles of 60 and 100.

Taomid Tablets and Taomid for Oral Suspension *(Roerig)*

Each tablet contains triacetyloleandomycin equivalent to 75 mg. of oleandomycin and 111 mg. each of sulfadiazine, sulfamerazine and sulfamethazine. Each teaspoonful of the oral dosage form, when reconstituted with water, contains triacetyloleandomycin equivalent to 125 mg. of oleandomycin and 167 mg. each of the three sulfas. *Indications:* For control of common and mixed genito-urinary tract infections and upper respiratory diseases. *Dosage:* Orally, as directed by the physician. *Supplied:* Tablets in bottles of 60. Oral suspension is packaged as a dry powder in 2 ounce amber bottles, to be reconstituted to 60 cc. with water.

Co.ilin Infant Liquid *(Schering)*

Each cc. of buffered vehicle contains 0.75 mg. of chlorprophenpyridamine maleate, 80 mg. of sodium salicylate and 25 mg. of glycine. *Indications:* For pediatric management of common cold symptomatology, teething problems, postinoculation reactions and pruritic conditions in children up to three years of age. *Dosage:* To be determined by the physician. *Supplied:* In 30 cc. dropper bottles.

Martussin Special
(Marvin R. Thompson)

Each 5 cc. teaspoonful contains 200 mg. of terpin hydrate, 50 mg. of caffeine, 200 mg. of ammonium salicylate, 50 mg. of ammonium gluconate, 100 mg. of glycine and 0.05% of surface-active benzalkonium chloride. *Indications:* Cough preparation especially suited for diabetic or hypertensive individuals. *Dosage:* One teaspoonful every two to four hours. Children in proportion. *Supplied:* In 4 ounce bottles and pint bottles.

Kudrox (Double Strength)
(Kremers-Urban)

Antacid-demulcent-cholecystokinetic in concentrated liquid form. A combination of aluminum hydroxide gel, magnesium hydroxide and d-sorbitol. *Indications:* For relief of biliary-digestive malfunction. *Dosage:* 1 or 2 teaspoonfuls 30 minutes after meals and at bedtime. In peptic ulcer, 2 to 4 teaspoonfuls after meals and at bedtime. *Supplied:* In 12 ounce plastic bottles with cap-spout for pouring. Complimentary plastic carriers available for convenient away-from-home dosage.

Salimeph/Prednisolone
(Kremers-Urban)

Each specially coated tablet contains 500 mg. of salicylamide, 333 mg. of mephenesin, 50 mg. of ascorbic acid and 0.75 mg. of prednisolone. *Indications:* For massive salicylate and potent corticosteroid therapy with fewer tablets for maximum antiarthritic and anti-inflammatory effect. For relief of pain and to increase joint function and range of motion in arthritis, myositis, bursitis, and spondylitis. *Dosage:* Two or more tablets 4 times daily, preferably after meals and at bedtime. *Supplied:* In bottles of 100, 500 and 1000 tablets.

Cerumenex *(Purdue Frederick)*

Otological preparation containing 10 percent triethanolamine polypeptide oleate-condensate in propylene glycol with 0.5 per cent of chlorobutanol. *Indications:* To facilitate ear wax removal. To relieve symptoms of itching, pain and impaired hearing, and eliminate danger of trauma and infection due to currettage. *Dosage:* To be placed directly into the ear canal. *Supplied:* In 15 cc. dropper bottles.

Gly-Oxide
(International Phar. Corp.)

A stable, long-acting solution of Carbamide (Urea) Peroxide 10 per cent in anhydrous glycerol. *Indications:* For local treatment of acute granular pharyngitis, mycotic stomatitis, smoker's pharyngitis (nicotine), acute periodontal lesions, Vincent's infection and herpetic ulcerations. *Dosage:* To be applied undiluted to the affected area. *Supplied:* In 2 ounce plastic applicator bottles.

Sterotril Tablets *(Schering)*

Each tablet contains 2.5 mg. of prednisone and 2 mg. of perphenazine to allay the anxiety and tension frequently associated with steroid-responsive disorders. *Indications:* Rheumatoid arthritis, fibrositis, bursitis and other anxiety-complicated rheumatic disorders. Allergic conditions resistant to conventional therapy or those in which tension has resulted in exacerbation of symptoms, specifically bronchial asthma, allergic rhinitis, atopic and contact dermatitis. As low-dosage maintenance therapy in collagen diseases such as disseminated lupus erythematosus, scleroderma, dermatomyositis and periarteritis. *Dosage:* As determined by the physician. *Supplied:* In bottles of 30 and 100 tablets.

Deltasmyl Tablets *(Roussel)*

Oral prednisone preparation. Each tablet contains 1.5 mg. of prednisone, 120 mg. of theophylline, 15 mg. of ephedrine hydrochloride and 8 mg. of phenobarbital. *Indications:* For the management of mild to moderately severe asthma. *Dosage:* One tablet provides symptomatic relief for approximately four hours. *Supplied:* In bottles of 50 tablets.

Caldecort *(Maltbie)*

Topical ointment containing hydrocortisone acetate, calcium undecylenate and neomycin. *Indications:* For relief of many skin disorders of fungal, bacterial or allergic origin, or combinations of these. Relieves itching, burning and inflammations and controls the fungal and bacterial infections. *Dosage:* For topical application. *Supplied:* In ¼ ounce collapsible tubes.

Dipral *(Charles C. Haskell)*

Each tablet contains 62.5 mg. of Dipyrone, 192 mg. of salicylamide, 192 mg. of para-aminobenzoic acid, 20 mg. of ascorbic acid and 2.5 mcg. of cobalamin concentrate. *Indications:* In arthritis, bursitis, fibrositis, myositis, neuritis, neuralgia, lumbago, low back pain, torticollis. To relieve pain and increase mobility, decrease inflammation and improve metabolic defect. *Dosage:* One or 2 tablets every 4 hours or as indicated. *Supplied:* In bottles of 100 and 1,000 tablets.

Candettes Cough Tablets *(Pfizer)*

Each compressed tablet contains 97 mg. of salicylamide, 97 mg. of phenacetin, 20 mg. of caffeine, 5 mg. of phenylephrine hydrochloride, 10 mg. of pheneiramine maleate and 20 mg. of vitamin C. *Indications:* For relief of symptoms of the common cold. *Dosage:* Adults, 1 to 2 tablets every three to four hours, not to exceed eight tablets in 24 hours. Children 6-12 years, ½ adult dosage. Under 6 years, as directed by the physician. *Supplied:* In bottles containing 24 tablets.

Ilopan-Choline Tablets *(Warren-Teed)*

Each tablet contains 50 mg. of d-Pantothenyl alcohol and 25 mg. of choline bitartrate. *Indications:* To relieve the discomfort of excessive gas. Indicated for gas retention in the atonic gastrointestinal tracts of ambulatory patients. Frequently helpful during laxative withdrawal. *Dosage:* Adults, 2 tablets 3 times daily. May be increased to 3 tablets or more 3 times daily. Children, proportionally smaller doses according to age. *Supplied:* In bottles of 100 and 500 tablets.

Staphylococcal Enterocolitis

Staphylococcal entercolitis is an infectious disease of the digestive tract caused by an overgrowth of coagulase-positive *Staphylococcus aureus*. It is not to be confused with staphylococcal gastroenteritis (food poisoning). In man, the staphylococci will not grow in the presence of a normal intestinal flora. The disease appears only when the natural flora of the bowel is disrupted.

Staphylococcal enteritis is seen as a complication in a variety of conditions, medical and surgical. Despite widespread opinion to the contrary, there is no evidence that its incidence is increasing, or that antibiotics play a significant role in its pathogenesis. Of 94 cases occurring postoperatively during a 25 year period, it was found that in 43 per cent of the 94 the patient had received no antibiotics. Since antibiotics do disrupt the intestinal flora, however, it seems reasonable to assume that their use would predispose to staphylococcal enteritis.

The disease usually manifests itself in any one of three principal forms: Shock, diarrhea, or ileus, and most commonly appears after bowel surgery.. Early and repeated stool smears and cultures of staphylococcus usually establish the diagnosis. Stool smears are essential because the organism may not grow in the usual culture media and because the patient may die before a culture grows out.

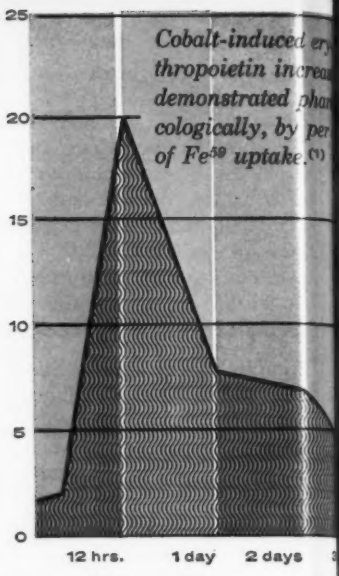
Absence of staphylococci at the anus (especially early) does not exclude the possibility of the organism's presence at a higher level. The finding of Gram-positive cocci on stool smear should be considered diagnostic until disproved by culture.

Treatment aims are to combat dehydration and shock and to eliminate the intestinal staphylococci. Fluid needs are great and must be determined several times daily. Multiple electrolytes are required as dictated by their loss. Blood pressure must be maintained at levels adequate for normal renal function. Vacoconstrictors frequently are needed. Corticosteroids are indicated if ordinary measures are not clearly adequate. Discontinue all broad-spectrum antibiotics and start erythromycin intravenously in doses of 400 mg. every six hours. Try to reintroduce normal intestinal bacteria by feeding normal stool in capsules or by giving an enema of normal stool suspension, or both.

Jackson, H. A., et al., *West Virginia M.J.*, 54:476-478,1958.

The Diabetic's Diet and His Income

Patients with good incomes can purchase a more palatable diet, but those of small means can follow a satisfactory regimen. Any diet that does not permit a wide choice tends to patient failure in following instructions.



Cobalt-induced er
thropoietin increa
demonstrated pha
cologically, by per
of Fe^{59} uptake.(1)

Activates the physiologic mechanism in anemia therapy

RONCOVITE®-m

Each tablet contains: Cobalt chloride (Cobalt as Co..3.7 mg.)..15 mg., Ferrous Sulfate, exsiccated..1

Only cobalt among therapeutic agents enhances p
duction of erythropoietin to promote red cell formation.

With Roncovite-MF, increased erythropoietin p
duction permits excellent hematopoietic response w
sharply reduced iron dosage.

Cobalt-iron (Roncovite therapy) has been dem
strated as superior to iron alone in the common hy
chromic anemias such as menstrual anemia, anemi
pregnancy, nutritional anemia of infancy and refr
tory anemias of chronic infection. [4,5,6,7,8]

(1) Goldwasser, E.; Jacobson, L. O.; Fried, W., and Plzak, L. F.: Blood 13:55 (Jan.) 1958. (2) Gurney
Jacobson, L. O. and Goldwasser, E.: Ann. Int. Med. 49:363 (Aug.) 1958. (3) Korst, D. R.; Bishop, R
Bethell, F. H.: J. Lab. & Clin. Med. 52:364 (Sept.) 1958. (4) Ausman, D. C.: Journal-Lancet 76:29
1956. (5) Holly, R. G.: Obst. & Gynec. 9:299 (Mar.) 1957. (6) Holly, R. G.: Clin. Obst. & Gynec. 1:1
1958. (7) Diamond, E. F.; Gonzales, F., and Pisani, A.: Illinois M. J. 113:154 (April) 1958. (8) Hi
La Jous, J., and Sebastian, F. J.: Texas State J. Med. 51:686 (Oct.) 1955.

LLOYD BROTHERS, INC. • CINCINNATI 3, OHI

The patient must understand the reason for dietary restrictions. Instruction may be given by the physician, nurse or dietitian and supplemented by written or printed lists of books.

Since most of these patients return at monthly intervals, four weekly groups can be seen each month and given the same instructions in the nature of the disease, its control and possible complications, importance of diet and weight control, use of insulin and hypoglycemic drugs (including possible side-reactions), care of feet, and details of insulin injection and care of syringes and needles.

There should be thorough discussions devoted to adequate diet and the values of various foods with emphasis on food groups similar in values, permitting substitutions. Accurate food measurements are demonstrated, using samples of the least expensive and most readily available, as well as best accepted, foods in the area. Food preferences are considered of foods generally used in the home. Usual routines are disturbed as little as possible. Simple meal plans are devised and demonstrated repeatedly for those who cannot use the exchange lists. Members of the patient's family may attend the classes in order that they may learn to assist the patient with his diet.

Willard, J. H., et al., *J. Kentucky M.A.*, 56:976-979,1958.

The Management of Circulatory Disturbances of the Inner Ear

Many patients come to the doctor because of disturbance in balance, ringing in the ear, and sudden or gradual impairment of hearing. In many cases these may be explained on the basis of labyrinthine artery insufficiency, caused by either spasm or complete obstruction of the labyrinthine vessels. Presumably an agent capable of increasing blood flow through these vessels should improve vestibular and auditory function.

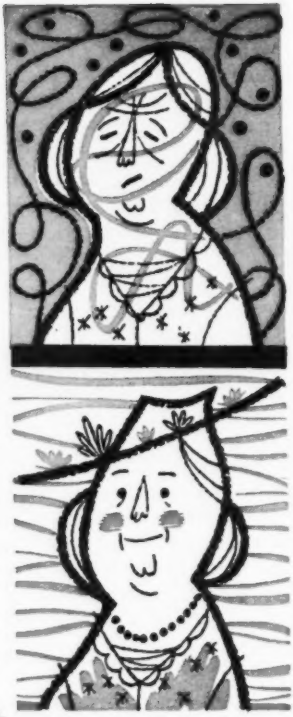
The peripheral vasodilator, nylidrine hydrochloride, is known to increase central retinal artery blood flow, which property suggested that it might have therapeutic value in labyrinthine arterial insufficiency. In a limited number of cases, carefully evaluated by complete physical examination and audiologic workup, nylidrin hydrochloride was found to be superior to all other vasodilating measures in its effect on the labyrinthine arteries, and not only an effective therapeutic agent in circulatory disorders of the inner ear, but a useful and convenient diagnostic aid in vestibular and auditory disease conditions.

Rubin, W., & Anderson, J. R., *Angiology*, 9-256-261, 1958.

NICOZOL

The ideal cerebral tonic
and stimulant for the aged.

from confusion
to a normal
behavior pattern



NICOZOL relieves mental confusion and abnormal behavior patterns in your senile patients.

NICOZOL therapy will enable your senile patients to live fuller, more useful lives.

Mildy confused senile patients may be rehabilitated from public and private institutions and cared for in the home by sustained treatment with the NICOZOL formula.[1,2,3]

1. Levy, S., *J.A.M.A.*,153:1260,1953
2. Thompson L., Procter, R., *North Carolina M. J.*, 15:596,1954
3. Thompson, L., Procter, R., *Clin. Med.* 3:325,1956

NICOZOL is supplied in capsule and elixir forms. Each capsule or ½ teaspoonful contains:
Pentylenetetrazol..... 100 mg.
Nicotinic Acid..... 50 mg.

Now Available
NICOZOL w/reserpine
(0.25 mg.)
Write for Samples

Write for professional sample and literature

DRUG SPECIALTIES, INC. **WINSTON-SALEM 1, N. C.**

briefs: SURGICAL

Care of the Patient with Multiple Injuries

The intern in the accident ward should have a thorough working knowledge of respirator equipment, and should have had practical experience in the animal laboratory in two operations—"cut-down" and tracheostomy. These operations must be done rapidly and efficiently since fumbling can spell disaster. The nurse should not record time-consuming data. It is important to know blood pressure and pulse, not full name and street number. Emergency equipment should be kept in readiness and in working order.

Treatment in the accident ward should be in this order:

Relief of respiratory obstruction or asphyxia—tracheostomy, if necessary.

Control of external hemorrhage.

Treatment of shock—at least one cut-down with large-bore polyethylene tube. Blood should be taken for hemoglobin, hematocrit, chemistries, typing and cross matching before infusion of plasma expanders. History and complete, gentle physical examination, with splinting of all obvious and suspected fractures. Particular emphasis should be placed on care of spine injuries, *e.g.*, use of cervical collar in neck injuries, passage of inlying Foley catheter to bladder and inspection of urine in good light before sending to laboratory. A short gastric tube via the nose may be used in all suspected thoracic and abdominal injuries. The gastric aspirate should be inspected and, if there is probability of adynamic ileus, suction instituted.

Recording of data and initial care are done by the senior physician in charge. All future orders for management of the case are written by this one man.

Calling of consultants for special examinations if necessary. Differences of opinion as to management and treatment are decided by the general surgeon. X-rays other than those absolutely essential are omitted at this time.

Frequent re-examinations and reappraisals, particularly during the first 72 hours of hospital stay, are mandatory.

Martin, W. L., & Cancelmo, J. B., *Pennsylvania M.J.*, 61:1361-1364,1958.

Incidence of Melanoma

In 253 of 26,508 patients melanoma was diagnosed and histologically confirmed in 236. A family history of cancer was noted with no greater frequency among those with malignant melanoma than among other groups. All were of the white race. Of the patients with melanoma, 6% were past the age of 40 and only 8 were prepubertal. Of the whole group, the 5 year cure rate was 41%, the 10 year rate 31%. There was one instance of an apparent spontaneous remission.

Vogler, W. R., et al., *Surg., Gynec. & Obst.*, 108: 586,1958.

Herniation Through the Diaphragm into the Pericardium

There are reports of 11 such cases in the world literature, eight of them autopsy findings of stillbirths or neonatal deaths with defects between the pericardial sac and diaphragm with other anomalies incompatible with life. The remaining three were corrected surgically — two congenital defects in infants and one African native of 48 with a history of trauma.

One case is that of a woman of 53 admitted to an emergency room following an automobile accident. Besides the initial shock which was promptly corrected, she had compound, comminuted fractures of right tibia and fibula, comminuted fracture of the left radius and ulna, fractures of the 4th, 5th, and 6th ribs, on the right. Open reduction of the compound fracture of the tibia was done and fracture of radius and ulna reduced. During her eight months' hospitalization, the entire care was orthopedic. One month after admission a chest film indicated a small pleural effusion on the left.

Thirteen months after the accident the patient was readmitted because of persistent postprandial epigastric pain which radiated into the left chest; something seemed to "flop over" when she turned on her left side. A chest film showed a shadow at the base of the left chest and fluid levels. Barium studies indicated that almost the entire stomach and a considerable portion of the transverse colon were in the left chest.

The left chest was opened through the bed of the 8th rib. The left pleural cavity was normal, the left diaphragm free of any defect; the pericardial sac was distended and upon palpation the presence of bowel could be detected within it. Extending the incision across the costal margin into the abdomen revealed a round 8 cm. hole in the central leaflet of the diaphragm with the left lobe of the liver entering it on its right side and the stomach and colon filling the remainder of the defect. There were no adhesions, no peritoneal sac. When the contents were reduced the heart was freely pulsating against the surface of the liver. The pericardium was smoothly continuous with the peritoneum. The absence of a triangular ligament left the left lobe of the liver unsupported and it could be deflected into the opening. The postoperative course was uneventful. There is no evidence of recurrence.

Rogers, J. F., et al., *Connecticut M.J.*, 22:653-656, 1958.

Use of a Spray-on-Plastic Dressing in the Care of Surgical Wounds

A bulky gauze and adhesive tape dressing is often uncomfortable and interferes with examinations. Some such dressings become wet from sweat and other secretions, odorous and uncomfortable. In spite of dressing changes, suture abscesses may form, which delay wound healing. Allergic reactions to adhesive tape occur frequently.

A spray-on plastic has been used as a surgical dressing since 1954.

Following closure of a wound, a sterile gauze sponge is pressed against the suture line to control any capillary hemorrhage. While this is being done, drapes are removed and the surrounding skin dried. After a few moments the gauze is discarded and the dry suture line sprayed with a thin film of sterile plastic that flakes off within four or five days.

Fostex®
treats their acne while they wash

degreases the skin helps remove blackheads dries and peels the skin

...and this is how it works

Fostex provides the essential actions necessary in treating acne. It washes off excess oil. It unblocks pores by penetrating and softening blackheads. It dries and peels the skin, removing papule coverings, thus permitting drainage of sebaceous glands.

Fostex contains Sebulytic®,* a combination of surface-active wetting agents with remarkable antiseborrheic, keratolytic and antibacterial actions . . . enhanced by sulfur 2%, salicylic acid 2%, hexachlorophene 1%.

*sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate and sodium dioctyl sulfosuccinate.

Your patients will like Fostex because it is so simple to use. They simply wash acne skin 2 to 4 times a day with Fostex, instead of using soap.

FOSTEX CREAM

. . . in 4.5 oz. jars. For therapeutic washing in the initial phase of oily acne treatment.

FOSTEX CAKE

. . . in bar form. For therapeutic washing to keep the skin dry and free of blackheads during maintenance therapy. Also used in relatively less oily acne.

Write for samples.

WESTWOOD PHARMACEUTICALS Buffalo 13, New York

Patients may take shower baths any time after the day of operation. In some cases the plastic is washed off, but rarely is there any need to reapply. Any that is left when sutures are removed can be easily peeled away. The wound remains sterile and is plainly visible. This plastic film also protects the skin in case of draining wounds, ileostomies and colostomies.

Radigan, L. R., & Jontz, J. G., *J. Indiana M.A.*, 51:1521-1523,1958.

Surgical Correction of Defective Absorption of Vitamin B_{12} in a Child

Megaloblastic anemia due to vitamin B_{12} deficiency may occur in patients with inflammatory or anatomic lesions of the bowel. The collective reviews include very few examples in infants or children.

A girl, born with extensive ileal atresia and incomplete rotation of the cecum, survived resection of the atresia with end-to-end jejunocolic anastomosis but manifested malnutrition, maldevelopment, increasing abdominal distention, episodic diarrhea and occult blood in the stools. X-ray examination disclosed progressive enlargement of a jejunal segment proximal to the anastomosis. Resection and reconstitution of the jejunocolic anastomosis at four years of age was not beneficial. At 5½ years, megaloblastic anemia due to vitamin B_{12} deficiency developed. The anemia responded to treatment with vitamin B_{12} intramuscularly, after which the enlarged jejunal loops were resected and the colon was reanastomosed to the normal-size jejunum. Two areas of adhesion of the enlarged loops to the liver were the only obstructive mechanisms recognized at any time, and shallow mucosal ulcerations were found near one of them. At eight years of age the patient shows improved nutrition, growth, development and bowel function. Diarrhea subsided, and occult blood gradually disappeared from the stool. Hematologic values, including the serum vitamin B_{12} level, have remained normal for 24 months.

Quinby, W. C., Jr., & McGovern, J. J., *New England J. Med.*, 259:755-760,1958.

Adequate Excision of Basal Cell Carcinomas

There is little reassurance in the statement that 87 per cent of basal cell carcinomas reported by pathologists as incompletely removed will not have local recurrence. Total excision of the tumor remains the primary responsibility of the surgeon. The problem arises more frequently in areas around the face where, for the sake of cosmetic effect, adequate margins of excision may be jeopardized. This has led to statements suggesting that these lesions be treated by two different physicians—one to do the extirpation, the other to close and worry about the cosmetic result.

In the two cases of "recurrent" basal cell carcinoma presented, the potential aggressiveness and gravity of these lesions is emphasized. Analysis of recurrences suggests that inadequacy of the deep margins of the excision is the most common factor, enhanced by the normal functioning of the wrist and hand of the surgeon, and by overconcern about cosmetic results. A preferred method of excisional technique is presented.

Tamoney, H. J., Jr., *Connecticut M.J.*, 22:708-709,1958.

briefs: THERAPEUTIC

Importance of Caloric Intake During Renal Failure

By providing readily available fat or carbohydrate, protein is spared as a caloric source and the accumulation of retained protein waste is retarded. Every effort should be made to encourage the waning appetite during renal failure. After initial emesis, additinal food taken may be retained. Intake should be 2,000 to 2,400 calories, (with protein less than 50 gm.) daily, sodium 500 mg. daily (unless abnormal losses occur), and these should be limitation of potassium-containing foods. Five or six small feedings are generally better than three large meals. An estimate of the intake should be made after each meal and additional calories administered parenterally.

Many patients can retain hard candy or plain sugar. Starvation ketosis can be controlled by giving 100 gm. of carbohydrate daily. Ingestible fat emulsions in many cause vomiting and diarrhea.

Chlorpromazine, given 30 to 60 minutes before meals, helps to overcome nausea *Urecholine*, 5 to 10 mg. every six hours, or *Prostigmin* (1: 4000), 1 ml. at six hour intervals, often improves peristalsis.

As long as peristalsis continues, fluid and caloric requirements may be supplied through a small plastic nasogastric tube. A pump has been devised to force thicker fluids through plastic tubes slowly and continuously. If it becomes necessary to resort to continuous parenteral nutrition the fluids of choice are 40 per cent invert sugar and 50 per cent glucose. Regular insulin should be given, one unit for each 5 gm. of sugar to each infusion, and 100 ml. of 95 per cent infusion ethyl alcohol in one liter of fluid gives a sense of well-being and supplies 400 calories. Vitamin replacement enhances utilization of caloric intake.

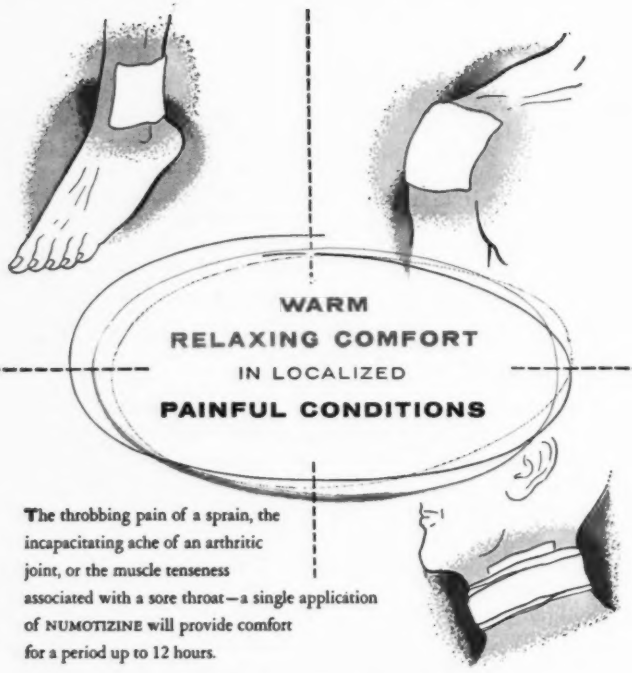
Carter, F. H., & Plumb, R. T., *California Med.*, 89:260-261,1958.

Experience with Intramuscular Digoxin

A preparation of digoxin suitable for intramuscular administration was used in the treatment of patients with heart disease. An intramuscular injection of 1 to 2 mg. resulted in a satisfactory lowering of the apex rate in five to 15 hours, usually within six hours, in 15 of 18 patients with auricular fibrillation. In nine of the 18 cases there was a rapid initial fall in the apex rate in the first two to three hours, which was considered to be a vagal effect. Concurrent administration of mercurial diuretics enhanced the effect of the digoxin.

This method of treatment had the disadvantage that the injections were painful, the degree of pain after a single injection varying from slight to severe. It was considered that the pain was probably due to direct action of digoxin on voluntary muscle.

Fletcher, E., et al., *Irish M.J.*, 39:273-280,1958.



WARM
RELAXING COMFORT
IN LOCALIZED
PAINFUL CONDITIONS

The throbbing pain of a sprain, the incapacitating ache of an arthritic joint, or the muscle tenseness associated with a sore throat—a single application of NUMOTIZINE will provide comfort for a period up to 12 hours.

Acting as a warm, moist dressing, NUMOTIZINE produces soothing hyperemia and analgesia in both traumatic and inflammatory congestive conditions.

NUMOTIZINE is simple to apply, requiring no heating of the area, no frequent change of dressings. As a topical application, it avoids the gastric irritation of oral analgesic medication. It is compatible with systemic medication.

NUMOTIZINE®

PRESCRIPTION CATAPLASM

Supplied: 4, 8, 15 and 30 oz. jars

HOBART LABORATORIES, Incorporated

CHICAGO 10, ILLINOIS, U.S.A.

An Unusual Sterol

Sterols have a widespread biologic significance. Many hormones are sterols and, chemically, vitamin D and digitalis are closely related. Cholesterol, one of the family, is present in all animal tissues. A few years ago it was determined that adding a certain plant sterol to the diet prevented or reduced hypercholesteremia. Since then, many reports have fully documented the effectiveness of this substance, *B*-sitosterol.

Large daily doses of *Cytellin* were administered to animals for periods of up to two years, and many chronic toxicologic studies were performed. There was no significant alteration in growth, blood cells, blood urea nitrogen, serum proteins, vitamin A levels, lipoproteins, etc.; nor were there changes in gross or microscopic appearance of any organ or tissue.

This favorable experience has been paralleled by studies in man. Some patients have received stiosterol continuously for more than four years, without harmful effect as determined by liver and renal function tests, blood and urine composition, electrocardiogram, and gall-bladder x-rays.

Tissue analysis in animals that received the drug for long periods of time revealed no detectable plant sterols.

The therapeutic effectiveness is dramatically shown in a recent report. Not only did *B*-sitosterol lower the elevated cholesterol content of serum, liver, and aorta of animals, but regression in atheroma was reported. Feeding sitosterol, even in the presence of cholesterol in the diet, led to a drop in the cholesterol concentrations of the blood and liver and to a significant regression of gross lesions in comparison with control animals.

Physician's Bull. (Lilly) 7:195-197,1958.

Effect of Aluminum Hydroxide on the Intestinal Absorption of Chloramphenicol

Chronic pyelonephritis is the most common renal lesion in uremia, surpassing chronic glomerulonephritis as a cause of Bright's disease. Other forms of uremia, both acute and chronic, are frequently complicated or precipitated by acute episodes of pyelonephritis. Instrumentation and catheterization are frequently responsible for such episodes. Treatment of pyelonephritis with appropriate antibiotics occasionally reverses the uremic state.

The treatment of uremic acidosis with sodium bicarbonate, without simultaneous treatment of calcium and phosphorous imbalance, is sometimes complicated by hypocalcemic tetany and hypernatremia.

By chemotherapeutic and antibiotic agents, acutely complicated pyelonephritis can be cured in 90 per cent of cases.

Chronic infections, which are due to multiple organisms and complicated by obstructive uropathy may be cured at least temporarily in 70 per cent of cases. Among the antibiotics that have been shown to be useful is chloramphenicol, particularly in the treatment of many Gram-negative infections, and especially of the colon-aerogenes group.

It is believed, on the basis of a limited study, that the concurrent use of chloramphenicol and aluminum hydroxide gel in the treatment of advanced renal failure with pyelonephritis does not carry as much risk of inhibition of antibiotic action through chelation as does the tetracycline group.

Takasu, T., et al., *New England J. Med.*, 259:767-770,1958.

Use of Iproniazid in Ischemic Angina Pectoris

Of a group of 40 patients all had frequent angina. Most had pain on walking a few steps and some also had rest pain. The situation was deteriorating in 24 and was static in 16. In all but five the electrocardiogram showed changes of previous cardiac infarction or present coronary insufficiency. All patients received bed rest, anticoagulants, and trinitrin, as and if indicated. Long-acting nitrites were not given. Iproniazid was prescribed in doses of 50 mg. two or three times daily.

Patients began to improve in five days to one month, with an average of two weeks. After one month 17 patients had pain only occasionally, and greater effort was required to provoke it. Fourteen patients were improved but still had angina on moderate effort. Of the remaining nine, one has died, four were unchanged, and four had stopped the drug after a week or two because of side effects. Nineteen patients have been followed for three months or more and the improvement has been maintained in all but two.

After one month the ECG was improved in nine patients, unchanged in 19, worse in five. Of those followed for three months or more, the ECG improved in the majority, was unchanged in four, worse in two. Two patients with the changes of coronary insufficiency, reversible with trinitrin, became free of pain despite the persistence of these changes.

Iproniazid given to 40 patients with severe angina pectoris from occlusive coronary atherosclerosis was effective in reducing the frequency and severity of anginal attacks. It appears to act by blocking pain and not by improving the coronary circulation. Side effects are common. Many patients complained of giddiness and two developed pulmonary edema, presumably from fluid retention. The blocking of angina may encourage the patient to be more active and may precipitate infarction. The drug is not indicated for patients with mild angina pectoris. In the patient with severe and intractable angina it is of great value, especially if anticoagulant therapy can be given in addition. The patient can often be helped over a prolonged ischemic episode, the drug being withdrawn when the condition improves.

Towers, M. K., & Wood, P., *Brit. M.J.*, 2:1067-1068, 1958.

Better than Buzzers for Bed-wetters

The electrical buzzer is an expensive and troublesome way of curing bed-wetting. There is another and simpler way which does not seem sufficiently well known. At a seamen's hospital a large number of young men wish to go to sea but are prevented by bed-wetting. They are easily cured by pituitary snuff and strong suggestion. Pituitary snuff inhibits the secretion of urine so that if the patient empties his bladder before going to bed and takes a sniff of snuff he cannot wet the bed because he has no urine left to do so. He is told that bed-wetting is merely a childish habit he has never outgrown, but if he takes the snuff for a few months he will do so. Many cases are successfully treated with this simple routine. It is not as dramatic as bells ringing and rising at night to pass water, but it is cheaper, simpler, and more comfortable.

Allen, C., *Brit. M.J.*, 2:799,1958.

BOOK REVIEWS

Pediatric Methods and Standards

Department of Pediatrics, School of Medicine, University of Pennsylvania, Fred H. Harvie, M.D., Associate Professor of Clinical Pediatrics, Editor. Third edition. Lea & Febiger, Philadelphia. 1958. $4.50

The essentials of what is needed for the diagnosis and treatment of diseases of children are presented. No irrelevancies or superfluities are included. Every practitioner will welcome the specific recommendations of what to do, when to do it, and how to do it. A listing of the important drugs and sera used in pediatrics, with indications and dosage, constitutes a feature of great value. It would be hard to find a better book on this subject, hard to find as good a one for that matter.

Ciba Foundation Colloquia on Aging, Vol. 4. Water and Electrolyte Metabolism in Relation to Age and Sex

editors for the Ciba Foundation, G. E. W. Wolstenholme, O.B.E., M.A., M.B., B. Ch., and Maeve O'Connor, B.A., with 85 illustrations. Little, Brown and Company, Boston. 1958. $8.50

Among the chapter heads are: Physiological Regulation of Water Content, Hypernatranemia and Hyponatranemia with Special Reference to Cerebral Disturbance, Glandular Secretion of Electrolytes, Hormonal Aspects of Water and Electrolyte Metabolism in Relation to Age and Sex, the Development of Acid-Base Control, and Age and Renal Disease. These few subjects give an idea of the fundamental practical importance of the book to every practicing physician.

Cerebral Vascular Diseases

Transactions of the Second Conference Held under the Auspices of The American Heart Association, Princeton, N. J., Clark H. Millikan, Editor. Including A Classification and Outline of Cerebrovascular Diseases, a Report by a Committee established by the Advisory Council for the National Institute of Neurological Diseases and Blindness, Public Health Service. Published for The American Heart Association by Grune and Stratton, New York. 1958. $4.00

Chapter heads include: Pathology

for Cerebral Vascular Diseases, Estimation of Cerebral Blood Flow and Cerebral Blood Pool, Experimental Cerebral Vascular Disease and Discomfort, Relationship of Hypertension to Cerebral Vascular Disease, Intermittent Cerebral Vascular Ischemia, Approaches to the Therapy of Atherosclerotic Disease, Anticoagulants in the Treatment of Cerebral Thrombosis, Experimental Studies with Enzymes in the Treatment of Thrombosis and Embolism, Surgical Aspects of Hemorrhage from Intracranial Aneurysms, and Rehabilitation Program.

Since all these subjects are well covered by specialists in each field, one can rest assured that the book will prove of great value to patients and doctors.

Men, Molds and History

by Felix Marti-Ibanez, M.D., Professor and Director, Department of History of Medicine, New York Medical College, Flower and Fifth Avenue Hospitals, New York; Editor-in-Chief of MD Medical Newsmagazine. MD Publications, Inc., New York, N.Y. 1958. $3.00

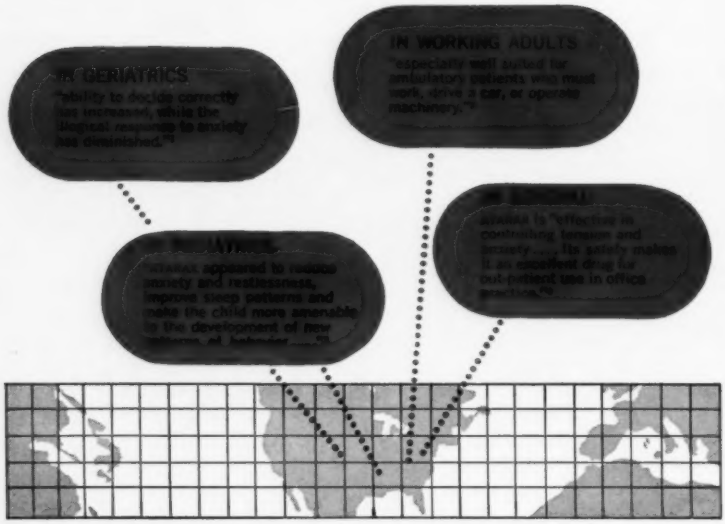
This book is made up of a series of addresses delivered by the author from 1953 to the present. These addresses start with one on historical perspective of antibiotics and cover the whole field of their development and usefulness. There are additional chapters on Words and Research, on Treating the Whole Patient, and one In Memoriam to Sir Alexander Fleming.

Not even the great Sir William Osler wrote medical essays more informative or in a more elegant manner.

re-evaluating tranquilizers?

READ WHAT CLINICIANS ARE NOW SAYING ABOUT ATARAX®

(brand of hydroxyzine)



INVESTIGATORS AGREE ON OPTIMAL ATARAX DOSAGES

For childhood behavior disorders	10 mg. tablets	3-6 years, one tablet t.i.d. over 6 years, two tablets t.i.d.
	Syrup	3-6 years, one tsp. t.i.d. over 6 years, two tsp. t.i.d.
For adult tension and anxiety	25 mg. tablets	one tablet q.i.d.
	Syrup	one tbsp. q.i.d.
For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.

Supplied: Tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Colrault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

ATARAX®

℞ only

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being